

SEQUENCE LISTING

<110> Sagami Chemical Research Center,
Protegene Inc.

<120> HUMAN PROTEINS HAVING HYDROPHOBIC DOMAINS AND DNAs ENCODING THESE
PROTEINS

<130> GIN-6727CPUS

<150> JP 10-326255

<151> 1998-11-17

<150> JP 10-364315

<151> 1998-12-22

<150> JP 11-69111

<151> 1999-03-16

<150> JP 11-119299

<151> 1999-04-27

<150> JP 11-134169

<151> 1999-06-19

<160> SEQ

<210> 1

<211> 247

<212> PRT

<213> Homo sapiens

<400> 1

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Met Ala Glu Glu Ala Pro Lys Lys Ser Arg Ala Ala Gly Gly Gly
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 20          25          30
Glu Gly Ser Gly Asp Ala Gly Gly Arg Arg Arg Pro Pro Val Asp Pro
 35          40          45
Arg Arg Leu Ala Arg Gln Leu Leu Leu Leu Trp Leu Leu Glu Ala
 50          55          60
Pro Leu Leu Leu Gly Val Arg Ala Gln Ala Ala Gly Gln Gly Pro Gly
 65          70          75          80
Gln Gly Pro Gly Pro Gly Gln Gln Pro Pro Pro Pro Gln Gln Gln
 85          90          95
Gln Ser Gly Gln Gln Tyr Asn Gly Glu Arg Gly Ile Ser Val Pro Asp
100          105          110
His Gly Tyr Cys Gln Pro Ile Ser Ile Pro Leu Cys Thr Asp Ile Ala
115          120          125
Tyr Asn Gln Thr Ile Met Pro Asn Leu Leu Gly His Thr Asn Gln Glu
130          135          140
Asp Ala Gly Leu Glu Val His Gln Phe Tyr Pro Leu Val Lys Val Gln
145          150          155          160
Cys Ser Ala Glu Leu Lys Phe Phe Leu Cys Ser Met Tyr Ala Pro Val
165          170          175
Cys Thr Val Leu Glu Gln Ala Leu Pro Pro Cys Arg Ser Leu Cys Glu
180          185          190
Arg Ala Arg Gln Gly Cys Glu Ala Leu Met Asn Lys Phe Gly Phe Gln
195          200          205
Trp Pro Asp Thr Leu Lys Cys Glu Lys Phe Pro Val His Gly Ala Gly
210          215          220

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Glu Leu Cys Val Gly Gln Asn Thr Ser Asp Lys Gly Thr Pro Thr Pro
 225 230 235 240
 Ser Leu Leu Pro Glu Phe Trp Thr Ser Asn Phe Gln His Gly Gly Gly
 245 250 255
 Gly His Arg Gly Gly Phe Pro Gly Gly Ala Gly Ala Ser Glu Arg Gly
 260 265 270
 Lys Phe Ser Cys Pro Arg Ala Leu Lys Val Pro Ser Tyr Leu Asn Tyr
 275 280 285
 His Phe Leu Gly Glu Lys Asp Cys Gly Ala Pro Cys Glu Pro Thr Lys
 290 295 300
 Val Tyr Gly Leu Met Tyr Phe Gly Pro Glu Glu Leu Arg Phe Ser Arg
 305 310 315 320
 Thr Trp Ile Gly Ile Trp Ser Val Leu Cys Cys Ala Ser Thr Leu Phe
 325 330 335
 Thr Val Leu Thr Tyr Leu Val Asp Met Arg Arg Phe Ser Tyr Pro Glu
 340 345 350
 Arg Pro Ile Ile Phe Leu Ser Gly Cys Tyr Thr Ala Val Ala Val Ala
 355 360 365
 Tyr Ile Ala Gly Phe Leu Leu Glu Asp Arg Val Val Cys Asn Asp Lys
 370 375 380
 Phe Ala Glu Asp Gly Ala Arg Thr Val Ala Gln Gly Thr Lys Lys Glu
 385 390 395 400
 Gly Cys Thr Ile Leu Phe Met Met Leu Tyr Phe Phe Ser Met Ala Ser
 405 410 415
 Ser Ile Trp Trp Val Ile Leu Ser Leu Thr Trp Phe Leu Ala Ala Gly
 420 425 430
 Met Lys Trp Gly His Glu Ala Ile Glu Ala Asn Ser Gln Tyr Phe His
 435 440 445
 Leu Ala Ala Trp Ala Val Pro Ala Ile Lys Thr Ile Thr Ile Leu Ala
 450 455 460
 Leu Gly Gln Val Asp Gly Asp Val Leu Ser Gly Val Cys Phe Val Gly
 465 470 475 480
 Leu Asn Asn Val Asp Ala Leu Arg Gly Phe Val Leu Ala Pro Leu Phe
 485 490 495
 Val Tyr Leu Phe Ile Gly Thr Ser Phe Leu Leu Ala Gly Phe Val Ser
 500 505 510
 Leu Phe Arg Ile Arg Thr Ile Met Lys His Asp Gly Thr Lys Thr Glu
 515 520 525
 Lys Leu Glu Lys Leu Met Val Arg Ile Gly Val Phe Ser Val Leu Tyr
 530 535 540
 Thr Val Pro Ala Thr Ile Val Ile Ala Cys Tyr Phe Tyr Gln Gln Ala
 545 550 555 560
 Phe Arg Asp Gln Trp Glu Arg Ser Trp Val Ala Gln Ser Cys Lys Ser
 565 570 575
 Tyr Ala Ile Pro Cys Pro His Leu Gln Ala Gly Gly Gly Ala Pro Pro
 580 585 590
 His Pro Pro Met Ser Pro Asp Phe Thr Val Phe Met Ile Lys Tyr Leu
 595 600 605
 Met Thr Leu Ile Val Gly Ile Thr Ser Gly Phe Trp Ile Trp Ser Gly
 610 615 620
 Lys Thr Leu Asn Ser Trp Arg Lys Phe Tyr Thr Arg Leu Thr Asn Ser
 625 630 635 640
 Lys Gln Gly Glu Thr Val
 645

<210> 2
 <211> 350
 <212> PRT
 <213> Homo sapiens
 <400> 2

Met His Pro Ala Ala Phe Pro Leu Pro Val Val Val Ala Ala Val Leu
1 5 10 15
Trp Gly Ala Ala Pro Thr Arg Gly Leu Ile Arg Ala Thr Ser Asp His
20 25 30
Asn Ala Ser Met Asp Phe Ala Asp Leu Pro Ala Leu Phe Gly Ala Thr
35 40 45
Leu Ser Gln Gln Gly Leu Gln Gly Phe Leu Val Gln Ala His Pro Asp
50 55 60
Asn Ala Gys Ser Pro Ile Ala Pro Pro Pro Pro Ala Pro Val Asn Gly
65 70 75
Ser Val Phe Ile Ala Leu Leu Arg Arg Phe Asp Cys Asn Phe Asp Leu
80 85 90 95
Lys Val Leu Asn Ala Gln Lys Ala Gly Tyr Gly Ala Ala Val Val His
100 105 110
Asn Val Asn Ser Asn Gln Leu Leu Asn Met Val Trp Asn Ser Gln Gln
115 120 125
Ile Gln Gln Gln Ile Trp Ile Pro Ser Val Phe Ile Gly Gln Arg Ser
130 135 140
Ser Gln Tyr Leu Arg Ala Leu Phe Val Tyr Gln Lys Gly Ala Arg Val
145 150 155 160
Leu Leu Val Pro Asp Asn Thr Phe Pro Leu Gly Tyr Tyr Leu Ile Pro
165 170 175
Phe Thr Gly Ile Val Gly Leu Leu Val Leu Ala Met Gly Ala Val Met
180 185 190
Ile Ala Arg Cys Ile Gln His Arg Lys Arg Leu Gln Arg Asn Arg Leu
195 200 205
Thr Lys Gln Gln Leu Lys Gln Ile Pro Thr His Asp Tyr Gln Lys Gly
210 215 220
Asp Gln Tyr Asp Val Cys Ala Ile Cys Leu Asp Gln Tyr Gln Asp Gly
225 230 235 240
Asp Lys Leu Asn Val Leu Pro Cys Ala His Ala Tyr His Ser Arg Cys
245 250 255
Val Asp Pro Trp Leu Thr Gln Phe Arg Lys Thr Cys Pro Ile Cys Lys
260 265 270
Gln Pro Val His Arg Gly Pro Gly Asp Gln Asp Gln Gln Gln Thr
275 280 285
Gln Gly Gln Ser Gln Gly Asp Gln Gly Gln Pro Arg Asp His Pro Ala
290 295 300
Ser Gln Arg Thr Pro Leu Leu Gly Ser Ser Pro Thr Leu Pro Thr Ser
305 310 315 320
Phe Gly Ser Leu Ala Pro Ala Pro Leu Val Phe Pro Gly Pro Ser Thr
325 330 335
Asp Pro Pro Leu Ser Pro Pro Ser Ser Pro Val Ile Leu Val
340 345 350

0110 -

0111 - L06

0112 - PRT

0113 - Homo sapiens

0100 -

Met Gly Leu Gly Gln Pro Gln Ala Trp Leu Leu Gly Leu Pro Thr Ala
1 5 10 15
Val Val Tyr Gly Ser Leu Ala Leu Phe Thr Thr Ile Leu His Asn Val
20 25 30
Phe Leu Leu Tyr Tyr Val Asp Thr Phe Val Ser Val Tyr Lys Ile Asn
35 40 45
Lys Met Ala Phe Trp Val Gly Gln Thr Val Phe Leu Leu Trp Asn Ser
50 55 60
Leu Asn Asp Pro Leu Phe Gly Trp Leu Ser Asp Arg Gln Phe Leu Ser
65 70 75 80

Ser Gln Pro Arg Gly Arg Asp Leu Pro Trp Leu Gly Leu Val Gly Pro
85 90 95
Ser Gly Leu Trp Thr Ala Asn Thr Leu Cys Cys Phe Trp Lys Ile Pro
100 105 110
Leu Pro His Pro Cys Leu Ser Pro Ser Ser Pro Pro Thr Leu Arg Ser
115 120 125
Gly His Pro Ile Pro Phe Gly His Gln Pro Asn Arg Leu Ile Arg Gly
130 135 140
Trp Lys Leu Gly Gln Arg Arg Val Tyr Pro Leu Val Arg Arg Arg
145 150 155 160
Ala Leu Leu Lys Gly Cys Gly Ala Gly Pro Gly Ala Gly Pro Gly Leu
165 170 175
Ala Trp Ala Ala Ala Gly Ala Val Val Pro Gly Val Leu Gly Ala Leu
180 185 190
Gly Pro Ser Trp Pro Ala Val Leu Ala Val Pro Val Pro Leu
195 200 205

<210> 4
<211> 213
<212> PRT
<213> Homo sapiens

<400> 4
Met His Tyr Tyr Arg Tyr Ser Asn Ala Lys Val Ser Cys Trp Tyr Lys
1 10 15
Tyr Leu Leu Phe Ser Tyr Asn Ile Ile Phe Trp Leu Ala Gly Val Val
20 25 30
Phe Leu Gly Val Gly Leu Trp Ala Trp Ser Glu Lys Gly Val Leu Ser
35 40 45
Asp Leu Thr Lys Val Thr Arg Met His Gly Ile Asp Pro Val Val Leu
50 55 60
Val Leu Met Val Gly Val Val Met Phe Thr Leu Gly Phe Ala Gly Cys
65 70 75 80
Val Gly Ala Leu Arg Glu Asn Ile Cys Leu Leu Asn Phe Asn Gln Cys
85 90 95
Cys Gly Ala Tyr Gly Pro Glu Asp Trp Asp Leu Asn Val Tyr Phe Asn
100 105 110
Cys Ser Gly Ala Ser Tyr Ser Arg Glu Lys Cys Gly Val Pro Phe Ser
115 120 125
Cys Cys Val Pro Asp Pro Ala Gln Lys Val Val Asn Thr Gln Cys Gly
130 135 140
Tyr Asp Val Arg Ile Gln Leu Lys Ser Lys Trp Asp Glu Ser Ile Phe
145 150 155 160
Thr Lys Gly Cys Ile Gln Ala Leu Glu Ser Trp Leu Pro Arg Asn Ile
165 170 175
Tyr Ile Val Ala Gly Val Phe Ile Ala Ile Ser Leu Leu Gln Ile Phe
180 185 190
Gly Ile Phe Leu Ala Arg Thr Leu Ile Ser Asp Ile Glu Ala Val Lys
195 200 205
Ala Gly His His Phe
210

<210> 5
<211> 595
<212> PRT
<213> Homo sapiens

<400> 5
Met Arg Ala Ala Arg Ala Ala Pro Leu Leu Gln Leu Leu Leu Leu
1 5 10 15
Gly Pro Trp Leu Glu Ala Ala Gly Val Ala Glu Ser Pro Leu Pro Ala



Glu Gln Tyr Lys Ala His Phe Trp Pro Arg Asp Leu Val Ala Phe Ser
 515 520 525
 Ala Gln Pro Leu Leu Ala Ala Pro Thr His Tyr Ala Gly Asp Ala Glu
 530 535 540
 Trp Leu Ser Asp Thr Glu Thr Ser Ser Pro Trp Asp Asp Asp Ser Gly
 545 550 555 560
 Arg Leu Ile Ser Trp Ser Gly Ser Gln Lys Thr Leu Arg Ser Pro Arg
 565 570 575
 Leu Asp Leu Thr Gly Ser Ser Gly His Ser Leu Gln Pro Gln Pro Arg
 580 585 590
 Asp Glu Leu
 595

010-6
 011-264
 012-PRT
 013-Homo sapiens

0400-6
 Met Val Ala Ser Ala Lys Met Gly Arg Ala Gly Thr Met Ala Val Ala
 1 5 10 15
 Ala Glu Leu Arg Glu Leu Cys Pro Gly Val Asn Asn Gln Pro Tyr Leu
 20 25 30
 Cys Glu Ser Gly His Cys Cys Gly Glu Thr Gly Cys Cys Thr Tyr Tyr
 35 40 45
 Tyr Glu Leu Trp Trp Phe Trp Leu Leu Trp Thr Val Leu Ile Leu Phe
 50 55 60
 Ser Lys Cys Cys Ala Phe Arg His Arg Arg Ala Lys Leu Arg Leu Gln
 65 70 75 80
 Gln Ala Gln Arg Gln Arg Gly Ile Asn Leu Leu Ala Tyr His Gly Ala
 85 90 95
 Lys His Gly Ala Gly Pro Phe Pro Thr Gly Ser Leu Leu Asp Leu Arg
 100 105 110
 Phe Leu Ser Thr Phe Lys Pro Ala Tyr Glu Asp Val Val His Arg
 115 120 125
 Pro Gly Thr Pro Pro Pro Pro Tyr Thr Val Ala Pro Gly Arg Pro Leu
 130 135 140
 Thr Ala Ser Ser Glu Gln Thr Cys Cys Ser Ser Ser Ser Ser Cys Pro
 145 150 155 160
 Ala His Phe Glu Gly Thr Asn Val Glu Gly Val Ser Ser His Gln Ser
 165 170 175
 Ala Pro Pro His Gln Glu Gly Glu Pro Gly Ala Gly Val Thr Pro Ala
 180 185 190
 Ser Thr Pro Pro Ser Cys Arg Tyr Arg Arg Leu Thr Gly Asp Ser Gly
 195 200 205
 Ile Glu Leu Cys Pro Cys Pro Ala Ser Gly Glu Gly Glu Pro Val Lys
 210 215 220
 Glu Val Arg Val Ser Ala Thr Leu Pro Asp Leu Glu Asp Tyr Ser Pro
 225 230 235 240
 Cys Ala Leu Pro Pro Glu Ser Val Pro Gln Ile Phe Pro Met Gly Leu
 245 250 255
 Ser Ser Ser Gln Gly Asp Ile Pro
 260

010-7
 011-343
 012-PRT
 013-Homo sapiens

0400-7
 Met Gln Pro Pro Pro Pro Gly Pro Leu Gly Asp Cys Leu Arg Asp Trp

1 5 10 15
 Glu Asp Leu Gln Gln Asp Phe Gln Asn Ile Gln Glu Thr His Arg Leu
 20 25 30
 Tyr Arg Leu Lys Leu Glu Glu Leu Thr Lys Leu Gln Asn Asn Cys Thr
 35 40 45
 Ser Ser Ile Thr Arg Gln Lys Lys Arg Leu Gln Glu Leu Ala Leu Ala
 50 55 60
 Leu Lys Lys Cys Lys Pro Ser Leu Pro Ala Glu Ala Glu Gly Ala Ala
 65 70 75 80
 Gln Glu Leu Glu Asn Gln Met Lys Glu Arg Gln Gly Leu Phe Phe Asp
 85 90 95
 Met Glu Ala Tyr Leu Pro Lys Lys Asn Gly Leu Tyr Leu Ser Leu Val
 100 105 110
 Leu Gly Asn Val Asn Val Thr Leu Leu Ser Lys Gln Ala Lys Phe Ala
 115 120 125
 Tyr Lys Asp Glu Tyr Glu Lys Phe Lys Leu Tyr Leu Thr Ile Ile Leu
 130 135 140
 Ile Leu Ile Ser Phe Thr Cys Arg Phe Leu Leu Asn Ser Arg Val Thr
 145 150 155 160
 Asp Ala Ala Phe Asn Phe Leu Leu Val Trp Tyr Tyr Cys Thr Leu Thr
 165 170 175
 Ile Arg Glu Ser Ile Leu Ile Asn Asn Gly Ser Arg Ile Lys Gly Trp
 180 185 190
 Trp Val Phe His His Tyr Val Ser Thr Phe Leu Ser Gly Val Met Leu
 195 200 205
 Thr Trp Pro Asp Gly Leu Met Tyr Gln Lys Phe Arg Asn Gln Phe Leu
 210 215 220
 Ser Phe Ser Met Tyr Gln Ser Phe Val Gln Phe Leu Gln Tyr Tyr Tyr
 225 230 235 240
 Gln Ser Gly Cys Leu Tyr Arg Leu Arg Ala Leu Gly Glu Arg His Thr
 245 250 255
 Met Asp Leu Thr Val Glu Gly Phe Gln Ser Trp Met Trp Arg Gly Leu
 260 265 270
 Thr Phe Leu Leu Pro Phe Leu Phe Gly His Phe Trp Gln Leu Phe
 275 280 285
 Asn Ala Leu Thr Leu Phe Asn Leu Ala Gln Asp Pro Gln Cys Lys Glu
 290 295 300
 Trp Gln Val Leu Met Cys Gly Phe Pro Phe Leu Leu Leu Phe Leu Gly
 305 310 315 320
 Asn Phe Phe Thr Thr Leu Arg Val Val His His Lys Phe His Ser Gln
 325 330 335
 Arg His Gly Ser Lys Lys Asp
 340

<210> :

<211> 144

<212> PRT

<213> Homo sapiens

<400> :

Met Asp Ile Leu Val Pro Leu Leu Gln Leu Leu Val Leu Leu Leu Thr
 1 5 10 15
 Leu Pro Leu His Leu Met Ala Leu Leu Gly Cys Trp Gln Pro Leu Cys
 20 25 30
 Lys Ser Tyr Phe Pro Tyr Leu Met Ala Val Leu Thr Pro Lys Ser Asn
 35 40 45
 Arg Lys Met Glu Ser Lys Lys Arg Glu Leu Phe Ser Gln Ile Lys Gly
 50 55 60
 Leu Thr Gly Ala Ser Gly Lys Val Ala Leu Leu Glu Leu Gly Cys Gly
 65 70 75 80
 Thr Gly Ala Asn Phe Gln Phe Tyr Pro Pro Gly Cys Arg Val Thr Cys

	85		90		95
Leu Asp Pro Asn Pro His Phe Glu Lys Phe Leu Thr Lys Ser Met Ala					
	100		105		110
Glu Asn Arg His Leu Gln Tyr Glu Arg Phe Val Val Ala Pro Gly Glu					
	115		120		125
Asp Met Arg Gln Leu Ala Asp Gly Ser Met Asp Val Val Val Cys Thr					
	130		135		140
Leu Val Leu Cys Ser Val Gln Ser Pro Arg Lys Val Leu Gln Glu Val					
	145		150		155
Arg Arg Val Leu Arg Pro Gly Gly Val Leu Phe Phe Trp Glu His Val					
	165		170		175
Ala Glu Pro Tyr Gly Ser Trp Ala Phe Met Trp Gln Gln Val Phe Glu					
	180		185		190
Pro Thr Trp Lys His Ile Gly Asp Gly Cys Cys Leu Thr Arg Glu Thr					
	195		200		205
Trp Lys Asp Leu Glu Asn Ala Gln Phe Ser Glu Ile Gln Met Glu Arg					
	210		215		220
Gln Pro Pro Pro Leu Lys Trp Leu Pro Val Gly Pro His Ile Met Gly					
	225		230		235
Lys Ala Val Lys					240

<210> 9

<211> 303

<212> PRT

<213> Homo sapiens

<300> 9

Met Lys Leu Lys Leu Lys Asn Val Phe Leu Ala Tyr Phe Leu Val Ser					
1			10		15
Ile Ala Gly Leu Leu Tyr Ala Leu Val Gln Leu Gly Gln Pro Lys Asp					
	20		25		30
Cys Leu Pro Pro Leu Arg Ala Ala Ala Glu Gln Leu Arg Gln Lys Asp					
	35		40		45
Leu Arg Ile Ser Gln Leu Gln Ala Glu Leu Arg Arg Pro Pro Pro Ala					
	50		55		60
Pro Ala Gln Pro Pro Glu Pro Glu Ala Leu Pro Thr Ile Tyr Val Val					
	65		70		75
Thr Pro Thr Tyr Ala Arg Pro Leu Trp Val Gln Tyr Pro Gln Asp Val					
	80		85		90
Thr Thr Phe Asn Ile Asp Asp Gln Tyr Leu Leu Gly Asp Ala Leu Leu					
	95		100		105
Val His Pro Val Ser Asp Ser Gly Ala His Gly Val Gln Val Tyr Leu					
	110		115		120
Pro Gly Gln Gly Glu Val Trp Tyr Asp Ile Gln Ser Tyr Gln Lys His					
	125		130		135
His Gly Pro Gln Thr Leu Tyr Leu Pro Val Thr Leu Ser Ser Ile Pro					
	140		145		150
Val Phe Gln Arg Gly Gly Thr Ile Val Pro Arg Trp Met Arg Val Arg					
	155		160		165
Arg Ser Ser Glu Cys Met Lys Asp Asp Pro Ile Thr Leu Phe Val Ala					
	170		175		180
Leu Ser Pro Gln Gly Thr Ala Gln Gly Glu Leu Phe Leu Asp Asp Gly					
	185		190		195
His Thr Phe Asn Tyr Gln Thr Arg Gln Glu Phe Leu Leu Arg Arg Phe					
	200		205		210
Ser Phe Ser Gly Asn Thr Leu Val Ser Ser Ser Ala Asp Pro Glu Gly					
	215		220		225
His Phe Glu Thr Pro Ile Trp Ile Glu Arg Val Val Ile Ile Gly Ala					
	230		235		240
Gly Lys Pro Ala Ala Val Val Leu Gln Thr Lys Gly Ser Pro Glu Ser					
	245		250		255

260 265 270
 Arg Leu Ser Phe Gln His Asp Pro Glu Thr Ser Val Leu Val Leu Arg
 275 280 285
 Lys Pro Gly Ile Asn Val Ala Ser Asp Trp Ser Ile His Leu Arg
 290 295 300

<210> 10
 <211> 160
 <212> PRT
 <213> Homo sapiens

<400> 10
 Met Asp Lys Leu Lys Lys Val Leu Ser Gly Gln Asp Thr Glu Asp Arg
 1 5 10 15
 Ser Gly Leu Ser Glu Val Val Glu Ala Ser Ser Leu Ser Trp Ser Thr
 20 25 30
 Arg Ile Lys Gly Phe Ile Ala Cys Phe Ala Ile Gly Ile Leu Cys Ser
 35 40 45
 Leu Leu Gly Thr Val Leu Leu Trp Val Pro Arg Lys Gly Leu His Leu
 50 55 60
 Phe Ala Val Phe Tyr Thr Phe Gly Asn Ile Ala Ser Ile Gly Ser Thr
 65 70 75 80
 Ile Phe Leu Met Gly Pro Val Lys Gln Leu Lys Arg Met Phe Glu Pro
 85 90 95
 Thr Arg Leu Ile Ala Thr Ile Met Val Leu Leu Cys Phe Ala Leu Thr
 100 105 110
 Leu Cys Ser Ala Phe Trp Trp His Asn Lys Gly Leu Ala Leu Ile Phe
 115 120 125
 Lys Ile Leu Gln Ser Leu Ala Leu Thr Trp Tyr Ser Leu Ser Phe Ile
 130 135 140
 Pro Phe Ala Arg Asp Ala Val Lys Lys Cys Phe Ala Val Cys Leu Ala
 145 150 155 160

<210> 11
 <211> 1941
 <212> DNA
 <213> Homo sapiens

<400> 11
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 cggcgccggc cggaggttga ccccgggcga ctggcgcgcc agatgtgtgt gctgctttgg 150
 ctgctggagg ctccggtgtt gctgggggtc cgggcccagg cggcgggcca ggggccaggc 200
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 tgtaatgaca agttcgccga ggacggggca ccaactgttg cgcagggcac caagaaaggag 1150
 ggtggaaca tctcttcct gatgctatac ttcttcagca tggccagctc catctgggtg 1200
 gtgatctgt cgtcacctg gttctctggg gctggcaatga agtggggcca cggggccttc 1250

gaagccaaact	cacagttatatt	tcacotgggc	gootggggctg	tgccgggcat	caagaccatc	1490
ccatccctgg	cgctgggcca	ggtgggaaggc	gatgtgctga	ggggaggttg	cttcgtgggg	1491
ccacaaacg	tggaagggt	ggtgggttc	gtgtggggc	ccctctctg	gtacgtgtt	1492
accggacgt	ccctctctgt	ggcgjgttc	gtgtgggttc	cccgcatccg	caccatccatg	1493
cagcagatg	gcacaaagac	cgagaaggtg	gagaagctca	tggtgggcat	tggtgtcttc	1494
aggcgctgt	acactgtgac	agccaccatc	gcacatggct	gctacctcta	cgagcagggc	1495
cccgaggac	agtgggaag	cagctgggtg	gcccagagct	gcaagagcta	cgctatcccc	1496
cgctccacc	cccgagggtg	cgagggggcc	ccggccgccc	cgcccatgag	ccgggacttc	1497
cggccttca	cgattaaata	ccctatgag	cgatctgttg	gcacacgtc	gggtctctgg	1498
ccctgtccg	gcaagaccc	caactccctg	aggaagcttc	acacgaggtc	caccacacgc	1499
caacagggg	agactacagt	c				1500

Q210 - 12
Q211 - 1451
Q212 - DNA
Q213 - Homo sapiens

gagcaccg	cagcattccc	gattcatgtg	gtggggggcg	ctgtgctgtg	gggagggggc	1501
ccgacccggg	ggctcattcc	agcgcctccg	gaaccacatg	ccagcatgga	ctttgcagac	1502
cccacagccc	tggtcggggc	tcactcgagc	caggaggggc	cccgggggcc	cttcgtggag	1503
ctccacccag	acaaatgctg	cagccacatc	gcccacccac	cccccagccc	ggtcaatggg	1504
ccactcttca	ctggcctgtg	tcgaaatctc	gactgcaact	tcgacctcaa	ggtccataat	1505
cccgagagg	ctggatctgg	tgccgtctga	gcacacaaatg	tcgaattccaa	tgaaactctg	1506
ccctgggtg	ggaatagtga	ggaaatccag	cagcagatct	ggatcccttc	tgtaattcct	1507
agggagaaa	gctccagcta	ccctgggtgc	ctctctgttc	acgagagagg	gggtcggggg	1508
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cgagcttgc	tggtcttggc	cattgggagc	gtaatgctag	ctggttctat	ccagcaccgg	1510
caacgtctcc	agcgcaatcg	acttcccaaa	gagcacaactg	aacagattcc	tcacacatgac	1511
ctccagagg	gagacaccta	tcgctgtctg	gcacattggc	tcggtgcaata	tgaggaatgg	1512
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ccactccaga	ccgggaagac	ctgcctcatt	tcgaagcagc	ctgtctatcg	gggtactggg	1514
cccgagccc	agaggaagga	caactcaggg	caagagggagg	gtggtgaggg	ggagcccaagg	1515
cccgaccccg	ccctcagaaa	gacccacatc	ttgggtctca	gcccacactc	ccccacctcc	1516
ctcccttctc	cagcccccagc	tcacattgtc	tcctctgggc	cttcaacaga	ccccccactg	1517
ctcccttctc	cttccctctg	tatctgtgta				1518

Q214 - 13
Q215 - 613
Q216 - DNA
Q217 - Homo sapiens

atggggctgg	gtcagccccca	ggcttgggtg	ctgggtctgc	ccacagctgt	ggctctatggc	1519
tccttgggtc	tccttccccc	catcttgccc	aaggtctctc	tgctctacta	tggtgacacc	1520
ctctgtctag	tgtaacaagt	caacaaaatg	gcttctctgg	tcggagagac	agctgtcttc	1521
ctctggaaca	gcttcaatga	ccctctcttc	gggtgggtca	gtgacccgga	gttccctcagc	1522
cccgagccc	gggggaagaga	tcacacctgg	cttgjctctg	ttggccctca	tggaatgtgg	1523
acttcaaca	ccctctgtgt	cttctgggaag	attccctctg	cccatccctg	cttgagcccg	1524
ccatccaccc	caaccttgag	aagtgggcat	cccataccc	ttggccatca	gcccacacag	1525
ctactaagg	gggtgaaact	ggggagaggg	aggagaggtg	acccactggt	caggggcagg	1526
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Q218 - 14
Q219 - 649
Q220 - DNA
Q221 - Homo sapiens

Q400 - 14

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c110 > 13

c111 > 1735

c112 > DNA

c113 > Homo sapiens

c400 > 15

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c110 > 16

c111 > 792

c112 > DNA

c113 > Homo sapiens

c400 > 16

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<211> 1023

<212> DNA

<213> Homo sapiens

<400> 17

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<210> 18

<211> 732

<212> DNA

<213> Homo sapiens

<400> 18

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<210> 19

<211> 909

<212> DNA

<213> Homo sapiens

<400> 19

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<211> 430

<212> DNA

<213> Homo sapiens

<300> 20

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<310> 11

<311> 4485

<312> DNA

<313> Homo sapiens

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<400> 21

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gggagcggcc cggggcgggt cccctggcag ccccgaggga gggcgcgcaa gagaggagcc 180
gagaaagt atg gct gag gag gag ggc cct aag aag tcc cgg gcc gcc ggc 240

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Met Ala Glu Glu Glu Ala Pro Lys Lys Ser Arg Ala Ala Gly

1

5

10

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ggt ggt gcc agc tgg gaa ctt tgt gcc ggg ggc ctc tgg gcc cgg ctg 276
Gly Gly Ala Ser Trp Glu Leu Cys Ala Gly Ala Leu Ser Ala Arg Leu

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15

20

25

30

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acg gag gag gcc agc ggg gac gcc ggt ggc cgc cgc cgc ccg cca gtt 326
Thr Glu Glu Gly Ser Gly Asp Ala Gly Gly Arg Arg Arg Pro Pro Val

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35

40

45

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gac ccc cgg cga tgg ggc cgc cag ctg ctg ctg cgg ctt tgg ctg ctg 374
Asp Pro Arg Arg Leu Ala Arg Gln Leu Leu Leu Leu Trp Leu Leu

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50

55

60

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gag gct ccg ctg ctg ctg ggg gtc cgg gcc cag gcc gcc gcc cag ggg 422
Glu Ala Pro Leu Leu Leu Gly Val Arg Ala Gln Ala Ala Gly Gln Gly

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65

70

75

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cca gcc cag ggg ccc ggg cng ggg cag caa ccg ccc ccg ccg cct cag 470
Pro Gly Gln Gly Pro Gly Pro Gly Gln Gln Pro Pro Pro Pro Pro Gln

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80	85	90	
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Gln Gln Gln Ser Gly Gln Gln Tyr Asn Gly Glu Arg Gly Ile Ser Val			
95	100	105	110
cag gac aac ggc tat tgc cag cgc atc tcc atc cag ctg tgc acg gac			566
Pro Asp His Gly Tyr Cys Gln Pro Ile Ser Ile Pro Leu Cys Thr Asp			
115	120	125	
atc gag tac aac cag acc atc atg ccc aac ctg ctg ggc cac acg aac			614
Ile Ala Tyr Asn Gln Thr Ile Met Pro Asn Leu Leu Gly His Thr Asn			
130	135	140	
cag gag gac ggc ggc ctg gag gtg cac cag ttc tac cct cta gtg aaa			662
Gln Glu Asp Ala Gly Leu Glu Val His Gln Phe Tyr Pro Leu Val Lys			
145	150	155	
gtg cag tat tcc gct gag ctg aag ttc ttc ctg tcc tcc atg tac gag			710
Val Gln Cys Ser Ala Glu Leu Lys Phe Phe Leu Cys Ser Met Tyr Ala			
160	165	170	
ccc ggc aac acc gtg cta gag cag aac ctg cag ccc tgc cgc tcc ctg			758
Pro Val Cys Thr Val Leu Glu Gln Ala Leu Pro Pro Cys Arg Ser Leu			
175	180	185	190
tgc gag ccc ggc cgc cag ggc tgc gag ggc ctg atg aac aag ttc ggc			806
Cys Glu Arg Ala Arg Gln Gly Cys Glu Ala Leu Met Asn Lys Phe Gly			
195	200	205	
ttc cag tcc cca gac acc ctg aag tgt gag aag ttc ccc gtg cac ggc			854
Phe Gln Trp Pro Asp Thr Leu Lys Cys Glu Lys Phe Pro Val His Gly			
210	215	220	
gac gag gag ctg tgc gtc ggc cag aac aag tcc gag aag ggc aac ccc			902
Ala Gly Glu Leu Cys Val Gly Gln Asn Thr Ser Asp Lys Gly Thr Pro			
225	230	235	
aag ccc tgc ctg ttc cca gag ttc tgg acc agc aac cct cag ccc ggc			950
Thr Pro Ser Leu Leu Pro Glu Phe Trp Thr Ser Asn Pro Gln His Gly			
240	245	250	
ggc gga gag ccc cct ggc ggc ttc ccc ggc ggc ggc ggc gag tgc gag			998
Gly Gly Gly His Arg Gly Gly Phe Pro Gly Gly Ala Gly Ala Ser Glu			
255	260	265	270
cga ggc aag ttc tcc tgc ccc cgc acc ctg aag ggc ccc tcc tac ctc			1046
Arg Gly Lys Phe Ser Cys Pro Arg Ala Leu Lys Val Pro Ser Tyr Leu			
275	280	285	
aac tcc ccc ttc ctg ggc gag aag gac tgc ggc gga cct tgt gag ccc			1094
Asn Tyr His Phe Leu Gly Glu Lys Asp Cys Gly Ala Pro Cys Glu Pro			
290	295	300	
acc aag gag tat ggc ctg atg tac ttc ggc ccc gag gag ctg cgc ttc			1142
Thr Lys Val Tyr Gly Leu Met Tyr Phe Gly Pro Glu Glu Leu Arg Phe			
305	310	315	
tgc cgc aac tgg att ggc att tgg tca gtc ctg tcc tgc gcc tcc acc			1190
Ser Arg Thr Trp Ile Gly Ile Trp Ser Val Leu Cys Cys Ala Ser Thr			
320	325	330	
ctc ttc aag gtc ctc acc tac ctg gtg gac atg cgc cgc ttc acc tac			1238
Leu Phe Thr Val Leu Thr Tyr Leu Val Asp Met Arg Arg Phe Ser Tyr			
335	340	345	350
ccg gag cgc ccc atc atc ttc ttg tcc ggc tgt tac acc gcc gtc gcc			1286
Pro Glu Arg Pro Ile Ile Phe Leu Ser Gly Cys Tyr Thr Ala Val Ala			
355	360	365	
gtg gcc tac atc gcc ggc ttc ctc ctg gaa gac cga gtg gtg tat aat			1334
Val Ala Tyr Ile Ala Gly Phe Leu Leu Glu Asp Arg Val Val Cys Asn			
370	375	380	
gac aag ttc gcc gag gac ggc gga tgc act gtg ggc cag gcc aac aag			1382
Asp Lys Phe Ala Glu Asp Gly Ala Arg Thr Val Ala Gln Gly Thr Lys			
385	390	395	
aag gag ggc tgc acc atc ctg ttc atg atg ctg ttc ttc ctc aac atg			1430
Lys Glu Gly Cys Thr Ile Leu Phe Met Met Leu Tyr Phe Phe Ser Met			
400	405	410	

gac agc tcc atc tgg tgg gtc atc ctg tgg etc acc tgg ttc ctg gag	1478
Ala Ser Ser Ile Trp Trp Val Ile Leu Ser Leu Thr Trp Phe Leu Ala	
415 420 425 430	
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Ala Gly Met Lys Trp Gly His Glu Ala Ile Glu Ala Asn Ser Gln Tyr	
435 440 445	
ttt cac ctg gcc gcc tgg gct gtc ccg gcc atc aag acc atc acc atc	1574
Phe His Leu Ala Ala Trp Ala Val Pro Ala Ile Lys Thr Ile Thr Ile	
450 455 460	
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465 470 475	
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Val Gly Leu Asn Asn Val Asp Ala Leu Arg Gly Phe Val Leu Ala Pro	
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Leu Phe Val Tyr Leu Phe Ile Gly Thr Ser Phe Leu Leu Ala Gly Phe	
495 500 505 510	
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Val Ser Leu Phe Arg Ile Arg Thr Ile Met Lys His Asp Gly Thr Lys	
515 520 525	
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Thr Glu Lys Leu Glu Lys Leu Met Val Arg Ile Gly Val Phe Ser Val	
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Leu Tyr Thr Val Pro Ala Thr Ile Val Ile Ala Cys Tyr Phe Tyr Glu	
545 550 555	
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Gln Ala Phe Arg Asp Gln Trp Gln Arg Ser Trp Val Ala Gln Ser Cys	
560 565 570	
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Lys Ser Tyr Ala Ile Pro Cys Pro His Leu Gln Ala Gly Gly Gly Ala	
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Pro Pro His Pro Pro Met Ser Pro Asp Phe Thr Val Phe Met Ile Lys	
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Ser Gly Lys Thr Leu Asn Ser Trp Arg Lys Phe Tyr Thr Arg Leu Thr	
625 630 635	
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<220>

<221> CDS

<222> (253)...(1305)

<410> 22

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cttcccgtct cc atg cac cct gca gcc ttc ccg ctt cct gty gtc gtc gcc 291
Met His Pro Ala Ala Phe Pro Leu Pro Val Val Val Ala
1 5 10
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Ala Val Leu Trp Gly Ala Ala Pro Thr Arg Gly Leu Ile Arg Ala Thr
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Ser Asp His Asn Ala Ser Met Asp Phe Ala Asp Leu Pro Ala Leu Phe
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Gly Ala Thr Leu Ser Gln Glu Gly Leu Gln Gly Phe Leu Val Glu Ala
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cac cca gac aat gcc tgc agc ctc att gcc cca cca cct cca gcc ccg 483
His Pro Asp Asn Ala Cys Ser Pro Ile Ala Pro Pro Pro Pro Ala Pro
65 70 75
gtc aat gag tca gtc ttt att ggc ctg ctt aga aga ttc gac tgc aac 531
Val Asn Gly Ser Val Phe Ile Ala Leu Leu Arg Arg Phe Asp Cys Asn
80 85 90
ttt cac ctc aag gtc cta aat gcc cag aag gct gga tat ggt gcc gct 579
Phe Asp Leu Lys Val Leu Asn Ala Gln Lys Ala Gly Tyr Gly Ala Ala
95 100 105
gta gta cac aat gtc aat ccc aat gaa ctt ctg aac atg gtc tgg aat 627
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Glu Arg Ser Ser Glu Tyr Leu Arg Ala Leu Phe Val Tyr Glu Lys Gly				
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ctc atc cct ttc aca ggg att gtg gga ctg ctg gtt ttg gcc atg gga				819
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Asn Arg Leu Thr Lys Glu Gln Leu Lys Gln Ile Pro Thr His Asp Tyr				
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Gln Lys Gly Asp Gln Tyr Asp Val Cys Ala Ile Cys Leu Asp Glu Tyr				
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Ser Arg Cys Val Asp Pro Trp Leu Thr Gln Thr Arg Lys Thr Cys Pro				
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Ile Cys Lys Gln Pro Val His Arg Gly Pro Gly Asp Glu Asp Gln Glu				
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Pro Ser Thr Asp Pro Pro Leu Ser Pro Pro Ser Ser Pro Val Ile Leu				
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150				
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(120):
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Gly Gln Pro Gln Ala Trp Leu Leu Gly Leu Pro Thr Ala Val Val Tyr	
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Gly Ser Leu Ala Leu Phe Thr Thr Ile Leu His Asn Val Phe Leu Leu	
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Tyr Tyr Val Asp Thr Phe Val Ser Val Tyr Lys Ile Asn Lys Met Ala	
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 012> DNA
 013> Homo sapiens

020>
 021> 703
 022> 169)... (710)

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Tyr Lys Tyr Leu Leu Phe Ser Tyr Asn Ile Ile Phe Trp Leu Ala Gly
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aac att tac att gtg gct ggc gtc ttc atc gcc atc tgc ctg ttg cag			638
Asn Ile Tyr Ile Val Ala Gly Val Phe Ile Ala Ile Ser Leu Leu Gln			
175	180	185	190
ata ttt ggc atc ttc ctg gca agg acg ctg atc tca gac atc gag gca			696
Ile Phe Gly Ile Phe Leu Ala Arg Thr Leu Ile Ser Asp Ile Glu Ala			
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Val Lys Ala Gly His His Phe			
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 (211) 2355
 (212) DNA
 (213) Homo sapiens

(220)
 (221) CDS
 (222) (20)...(1807)

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His Ser Leu Pro His Tyr Leu Gly Ala Leu Glu Arg Leu Asp Tyr Pro	
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Thr Thr Glu Met Leu Gln Glu Trp Leu Ala Ala Val Gly Asp Asp Tyr	
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Glu Glu Gly Pro Lys His Trp Thr Lys Glu Arg His Gln Phe Leu Met	
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Arg Val Asn Phe Ile His Leu Ile Leu Glu Ala Leu Val Asp Gly Pro	
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Ile Arg Asn Leu Gly Val Asp Leu Leu Pro Gly Tyr Gln Asp Pro Tyr	
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Ser Gly Arg Thr Leu Thr Lys Gly Glu Val Gly Cys Phe Leu Ser His	
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Tyr Ser Ile Trp Glu Glu Val Val Ala Arg Gly Leu Ala Arg Val Leu	
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Val Phe Glu Asp Asp Val Arg Phe Glu Ser Asn Phe Arg Gly Arg Leu	
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Ala Tyr Ala Leu Arg Leu Ala Gly Ala Arg Lys Leu Leu Ala Ser Gln	
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Pro Leu Arg Arg Met Leu Pro Val Asp Glu Phe Leu Pro Ile Met Phe	
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Asp Gln His Pro Asn Glu Gln Tyr Lys Ala His Phe Trp Pro Arg Asp	
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Leu Val Ala Phe Ser Ala Gln Pro Leu Leu Ala Ala Pro Thr His Tyr	
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Ala Gly Asp Ala Glu Trp Leu Ser Asp Thr Glu Thr Ser Ser Pro Trp	
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Asp Asp Asp Ser Gly Arg Leu Ile Ser Trp Ser Gly Ser Gln Lys Thr	
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Gln Pro Gln Pro Arg Asp Glu Leu	
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 Ala Gly Thr Met Ala Val Ala Ala Glu Leu Arg Glu Leu Cys Pro Gly
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 gtg aac aac cag ccc tac ctg tat gag agt ggt cag tgc tgc ggg gag 149
 Val Asn Asn Gln Pro Tyr Leu Cys Glu Ser Gly His Cys Cys Gly Glu
 30 35 40
 act ggc tgc tgc acc tac tac tat gag ctg tgg tgg ctg tgg ctg ctg 197
 Thr Gly Cys Cys Thr Tyr Tyr Tyr Glu Leu Trp Trp Phe Trp Leu Leu
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 Trp Thr Val Leu Ile Leu Phe Ser Cys Cys Cys Ala Phe Arg His Arg
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 Arg Ala Lys Leu Arg Leu Gln Gln Gln Arg Gln Arg Glu Ile Asn
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 Leu Leu Ala Tyr His Gly Ala Cys His Gly Ala Gly Pro Phe Pro Thr
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 Gly Ser Leu Leu Asp Leu Arg Phe Leu Ser Thr Phe Lys Pro Pro Ala
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 Tyr Glu Asp Val Val His Arg Pro Gly Thr Pro Pro Pro Tyr Thr
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 gta gcc cca gcc cgc ccc ttg act gct tcc agt gaa caa acc tgc tgt 485
 Val Ala Pro Gly Arg Pro Leu Thr Ala Ser Ser Glu Gln Thr Cys Cys
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 Ser Ser Ser Ser Cys Pro Ala His Phe Glu Gly Phe Asn Val Glu
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 Gly Val Ser Ser His Gln Ser Ala Pro Pro His Gln Gln Gly Glu Pro
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 Gly Ala Gly Val Thr Pro Ala Ser Thr Pro Pro Ser Cys Arg Tyr Arg
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 ppt gag ppt gag cca gtc aag gag gtg agg att agt gcc acc ctg cca 725
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 Asp Leu Glu Asp Tyr Ser Pro Cys Ala Leu Pro Pro Glu Ser Val Pro
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 aag atc ttt ccc atg ggg ctg tct tcc agt gaa ggg gac atc cca 818
 Gln Ile Phe Pro Met Gly Leu Ser Ser Ser Ser Glu Gly Asp Ile Pro
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 gcccaactc cttgggttcc ttggccccc cccgtccctac ctagaatctg cctgaaagg 930
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Asp Cys Leu Arg Asp Trp Glu Asp Leu Gln Gln Asp Phe Gln Asn Ile
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cag cag acc cat cgg ctg tac cgg ctg aag ctg gag gag ctg acc aaa      149
Gln Gln Thr His Arg Leu Tyr Arg Leu Lys Leu Glu Gln Leu Thr Lys
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ctt cag aac aat tgc acc agc tac atc aag cgg cag aag aag cgg ctg      197
Leu Gln Asn Asn Cys Thr Ser Ser Ile Thr Arg Gln Lys Lys Arg Leu
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cag gag ctg gcc ctg gcc ctg aag aaa tgc aaa ccc ttc ctg cca gca      245
Gln Gln Leu Ala Leu Ala Leu Lys Lys Cys Lys Pro Ser Leu Pro Ala
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gag gcc gag ggg gcc gca cag gag ctg gag aac cag atg aaa gag cgc      293
Gln Ala Glu Gly Ala Ala Gln Gln Leu Glu Asn Gln Met Lys Glu Arg
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caa ggc ctg ttc ctt gac aag gag gcc tat ttg cct aag aag aat gga      341
Gln Gly Leu Phe Phe Asp Met Glu Ala Tyr Leu Pro Lys Lys Asn Gly
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ttg tac ctg agc ctg gtt ctg ggg aac gtc aac gtc aag ctg ctg agc      389
Leu Tyr Leu Ser Leu Val Leu Gly Asn Val Asn Val Thr Leu Leu Ser
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aag cag gct aag ttt gcc tac aag gac gag tat gag aag ttc aag ctg      437
Lys Gln Ala Lys Phe Ala Tyr Lys Asp Glu Tyr Glu Lys Phe Lys Leu
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tac ctg acc atc atc ctg atc ctg atc ttc ttc act tgc cgc ttc ctg      465
Tyr Leu Thr Ile Ile Leu Ile Leu Ile Ser Phe Thr Cys Arg Phe Leu
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Leu Asn Ser Arg Val Thr Asp Ala Ala Phe Asn Phe Leu Leu Val Trp
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Tyr Tyr Cys Thr Leu Thr Ile Arg Glu Ser Ile Leu Ile Asn Asn Gly
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Ser Arg Ile Lys Gly Trp Trp Val Phe His His Tyr Val Ser Thr Phe
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ctg tgg gga gtc atg ctg aag tgg ccc gac ggt ctg atg tac cag aaa      677
Leu Ser Gly Val Met Leu Thr Trp Pro Asp Gly Leu Met Tyr Gln Lys
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Phe Arg Asn Gln Phe Leu Ser Phe Ser Met Tyr Gln Ser Phe Val Gln
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ttt ctg cag tac tac tac cag agc ggc tgc ctg tac agc ctg cgg ggc      773
Phe Leu Gln Tyr Tyr Tyr Gln Ser Gly Cys Leu Tyr Arg Leu Arg Ala
                225                230                235
ctg ggc gag cgg cac acc atg gac ctg act gtc gag ggc ttc cag tcc      821
Leu Gly Glu Arg His Thr Met Asp Leu Thr Val Glu Gly Phe Gln Ser
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tgg atg tgg cgg gcc ctg acc ttc ctg ctg cct ttt ctt ttc ttt gga      869
Trp Met Trp Arg Gly Leu Thr Phe Leu Leu Pro Phe Leu Phe Phe Gly
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His Phe Trp Gln Leu Phe Asn Ala Leu Thr Leu Phe Asn Leu Ala Gln			
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Asp Pro Gln Cys Lys Glu Trp Gln Val Leu Met Cys Gly Phe Pro Phe			
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Leu Leu Leu Phe Leu Gly Asn Phe Phe Thr Thr Leu Arg Val Val His			
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His Lys Phe His Ser Gln Arg His Gly Ser Lys Lys Asp			
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Leu Leu Gln Leu Leu Val Leu Leu Leu Thr Leu Pro Leu His Leu Met			
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gct ctg ctc ggc tgc tgg cag ccc ctg tgc aaa agc tac ttc ccc tac			182
Ala Leu Leu Gly Cys Trp Gln Pro Leu Cys Lys Ser Tyr Phe Pro Tyr			
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ctg atg gcc gtg ctg act ccc aag agc aac cgc aag atg gag agc aag			200
Leu Met Ala Val Leu Thr Pro Lys Ser Asn Arg Lys Met Glu Ser Lys			
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aaa cgg gag ctc ttc agc cag ata aag ggg ctt aca gga gcc tcc ggg			248
Lys Arg Gln Leu Phe Ser Gln Ile Lys Gly Leu Thr Gly Ala Ser Gly			
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aaa gtg gcc cta ctg gag ctg ggc tgc gga acc gga gcc aac ttt cag			296
Lys Val Ala Leu Leu Glu Leu Gly Cys Gly Thr Gly Ala Asn Phe Gln			
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ttc tac cca cgg gcc tgc agg gtc acc tgc cta gac cca aat ccc cag			344
Phe Tyr Pro Pro Gly Cys Arg Val Thr Cys Leu Asp Pro Asn Pro His			
	90	95	100
ttt gag aag ttc ctg aca aag agc atg gct gag aac agg cac ctc caa			392
Phe Gln Lys Phe Leu Thr Lys Ser Met Ala Glu Asn Arg His Leu Gln			
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tat gag cgg ttt gtg gtg gct cct gga gag gac atg aga cag ctg gct			440
Tyr Gln Arg Phe Val Val Ala Pro Gly Glu Asp Met Arg Gln Leu Ala			
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gat ggc tcc atg gat gtg gtg gtc tgc act ctg gtg ctg tgc tct gtg			488
Asp Gly Ser Met Asp Val Val Val Cys Thr Leu Val Leu Cys Ser Val			
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Gln Ser Pro Arg Lys Val Leu Gln Glu Val Arg Arg Val Leu Arg Pro			
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gga ggt gtg ctc ttt ttc tgg gag cat gtg gca gaa cca tat gga agc			584

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10

0103

11-14

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Tyr Leu Pro Val Thr Leu Ser Ser Ile Pro Val	Phe Gln Arg Gly Gly		
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Ala Gln Gly Gln Leu Phe Leu Asp Asp Gly His	Thr Phe Asn Tyr Gln		
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aat ggt caa gag ttc ctg ctg cgt cga ttc tca	ttc cct ggc aac acc	717	
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Val Leu Gln Thr Lys Gly Ser Pro Gln Ser Arg	Leu Ser Phe Gln His		
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Asp Pro Glu Thr Ser Val Leu Val Leu Arg Lys	Pro Gly Ile Asn Val		
	275	280	285
taa cct gat tgg agt att cag ctg cga taacaaagg	gaggttctgtg gtha	967	
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Met Asp Lys Leu Lys Lys Val Leu Ser Gly Gln Asp Thr
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Gly Ser Thr Ile Phe Leu Met Gly Pro Val Lys Gln Leu Lys Arg Met
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Phe Glu Pro Thr Arg Leu Ile Ala Thr Ile Met Val Leu Leu Cys Phe
95 100 105

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Ala Leu Thr Leu Cys Ser Ala Phe Trp Trp His Asn Lys Gly Leu Ala
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130 135 140

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Ser Phe Ile Pro Phe Ala Arg Asp Ala Val Lys Lys Cys Phe Ala Val
145 150 155

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Lys Leu Ala
160

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Leu Glu His Cys Pro Ser Glu Val Thr Val Lys Ala Glu Leu Leu Lys
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Thr Ala Ser Asn Leu Thr Val Ser Val Leu Glu Ala Glu Gly Val Phe
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 Lys Thr Ser Leu Asn Ile Leu Ile Lys Asp Pro Lys Ser Asn Leu Ile
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 Phe Gln Leu Ser Ser His Pro Ile Leu Gly Asp Trp Ser Ile Gln Val
 195 200 205
 Gln Val Asn Asp Gln Thr Tyr Tyr Gln Ser Phe Gln Val Ser Gln Tyr
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 Met Asn Ser Lys His Leu Asn Gly Thr Ile Thr Ala Lys Tyr Thr Tyr
 245 250 255
 Gly Lys Pro Val Lys Gly Asp Val Thr Leu Thr Phe Leu Pro Leu Ser
 260 265 270
 Phe Trp Gly Lys Lys Lys Asn Ile Thr Lys Thr Phe Lys Ile Asn Gly
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 Ser Ala Asn Phe Ser Phe Asn Asp Glu Glu Met Lys Asn Val Met Asp
 290 295 300
 Ser Ser Asn Gly Leu Ser Gln Tyr Leu Asp Leu Ser Phe Phe Gly Pro
 305 310 315 320
 Val Glu Ile Leu Thr Thr Val Thr Glu Ser Val Thr Gly Ile Ser Arg
 325 330 335
 Asn Val Ser Thr Asn Val Phe Phe Lys Gln His Asp Tyr Ile Ile Glu
 340 345 350
 Phe Phe Asp Tyr Thr Thr Val Leu Lys Pro Ser Leu Asn Phe Thr Ala
 355 360 365
 Thr Val Lys Val Thr Arg Ala Asp Gly Asn Gln Leu Thr Leu Glu Glu
 370 375 380
 Arg Arg Asn Asn Val Val Ile Thr Val Thr Gln Arg Asn Tyr Thr Glu
 385 390 395 400
 Tyr Trp Ser Gly Ser Asn Ser Gly Asn Gln Lys Met Glu Ala Val Gln
 405 410 415
 Lys Ile Asn Tyr Thr Val Pro Gln Ser Gly Thr Phe Lys Ile Gln Phe
 420 425 430
 Pro Ile Leu Glu Asp Ser Ser Glu Leu Gln Leu Lys Ala Tyr Phe Leu
 435 440 445
 Gly Ser Lys Ser Ser Met Ala Val His Ser Leu Phe Lys Ser Pro Ser
 450 455 460
 Lys Thr Tyr Ile Gln Leu Lys Thr Arg Asp Glu Asn Ile Lys Val Gly
 465 470 475 480
 Ser Pro Phe Glu Leu Val Val Ser Gly Asn Lys Arg Leu Lys Gln Leu
 485 490 495
 Ser Tyr Met Val Val Ser Arg Gly Gln Leu Val Ala Val Gly Lys Gln
 500 505 510
 Asn Ser Thr Met Phe Ser Leu Thr Pro Gln Asn Ser Trp Thr Pro Lys
 515 520 525
 Ala Cys Val Ile Val Tyr Tyr Ile Glu Asp Asp Gly Glu Ile Ile Ser
 530 535 540
 Asp Val Leu Lys Ile Pro Val Gln Leu Val Phe Lys Asn Lys Ile Lys
 545 550 555 560
 Leu Tyr Trp Ser Lys Val Lys Ala Glu Pro Ser Glu Lys Val Ser Leu

				565					570				575
Arg	Ile	Ser	Val	Thr	Gln	Pro	Asp	Ser	Ile	Val	Gly	Ile	Val
			580					585					590
Asp	Lys	Ser	Val	Asn	Leu	Met	Asn	Ala	Ser	Asn	Asp	Ile	Thr
		595					600					605	
Asn	Val	Val	His	Glu	Leu	Glu	Leu	Tyr	Asn	Thr	Gly	Tyr	Tyr
	610				615						620		Leu
Met	Phe	Met	Asn	Ser	Phe	Ala	Val	Phe	Gln	Glu	Cys	Gly	Leu
	625				630					635			Trp
Leu	Thr	Asp	Ala	Asn	Leu	Thr	Lys	Asp	Tyr	Ile	Asp	Gly	Val
			645					650					Tyr
Asn	Ala	Glu	Tyr	Ala	Glu	Arg	Phe	Met	Glu	Glu	Asn	Glu	Gly
	670							665					His
Val	Asp	Ile	His	Asp	Phe	Ser	Leu	Gly	Ser	Ser	Pro	His	Val
	675						680						Arg
His	Phe	Pro	Glu	Thr	Trp	Ile	Trp	Leu	Asp	Thr	Asn	Met	Gly
	690					695					700		Ser
Ile	Tyr	Gln	Glu	Phe	Glu	Val	Thr	Val	Pro	Asp	Ser	Ile	Thr
	705				710					715			Ser
Val	Ala	Thr	Gly	Phe	Val	Ile	Ser	Glu	Asp	Leu	Gly	Leu	Gly
			725						730				Leu
Thr	Thr	Pro	Val	Glu	Leu	Gln	Ala	Phe	Gln	Pro	Phe	Phe	Ile
	740						745						Phe
Asn	Leu	Pro	Tyr	Ser	Val	Ile	Arg	Gly	Glu	Glu	Phe	Ala	Leu
	755						760				765		Glu
Thr	Ile	Phe	Asn	Tyr	Leu	Lys	Asp	Ala	Thr	Glu	Val	Lys	Val
	770				775						780		Ile
Glu	Lys	Ser	Asp	Lys	Phe	Asp	Ile	Leu	Met	Thr	Ser	Ser	Glu
	785				790					795			Ile
Ala	Thr	Gly	His	Gln	Gln	Thr	Leu	Leu	Val	Pro	Ser	Glu	Asp
			805						810				Gly
Thr	Val	Leu	Phe	Pro	Ile	Arg	Pro	Thr	His	Leu	Gly	Glu	Ile
	810						825						Pro
Thr	Val	Thr	Ala	Leu	Ser	Pro	Thr	Ala	Ser	Asp	Ala	Ile	Thr
	835						840						Gln
Ile	Leu	Val	Lys	Ala	Glu	Gly	Ile	Glu	Lys	Ser	Tyr	Ser	Gln
	850				855					860			Ser
Leu	Leu	Asp	Leu	Thr	Asp	Asn	Arg	Leu	Gln	Ser	Thr	Leu	Lys
	865				870					875			Thr
Ser	Phe	Ser	Phe	Pro	Pro	Asn	Thr	Val	Thr	Gly	Ser	Glu	Arg
			885						890				Val
Ile	Thr	Ala	Ile	Gly	Asp	Val	Leu	Gly	Pro	Ser	Ile	Asn	Gly
	900							905					Leu
Ser	Leu	Ile	Arg	Met	Pro	Tyr	Gly	Cys	Gly	Glu	Gln	Asn	Met
	915						920						Ile
Phe	Ala	Pro	Asn	Ile	Tyr	Ile	Leu	Asp	Tyr	Leu	Thr	Lys	Lys
	930					935					940		Gln
Leu	Thr	Asp	Asn	Leu	Lys	Glu	Lys	Ala	Leu	Ser	Phe	Met	Arg
	945				950					955			Gln
Tyr	Gln	Arg	Glu	Leu	Leu	Tyr	Gln	Arg	Glu	Asp	Gly	Ser	Phe
			965						970				Ser
Phe	Gly	Asn	Tyr	Asp	Pro	Ser	Gly	Ser	Thr	Trp	Leu	Ser	Ala
	980								985				Phe
Leu	Arg	Cys	Phe	Leu	Gln	Ala	Asp	Pro	Tyr	Ile	Asp	Ile	Asp
	995						1000						Gln
Val	Leu	His	Arg	Thr	Tyr	Thr	Trp	Leu	Lys	Gly	His	Gln	Lys
	1010					1015					1020		Ser
Gly	Glu	Phe	Trp	Asp	Pro	Gly	Arg	Val	Ile	His	Ser	Glu	Leu
	1025					1030				1035			Gln
Gly	Asn	Lys	Ser	Pro	Val	Thr	Leu	Thr	Ala	Tyr	Ile	Val	Thr
			1045						1050				Ser
													Leu

Leu Gly Tyr Arg Lys Tyr Gln Pro Asn Ile Asp Val Gln Glu Ser Ile
 1060 1065 1070
 His Phe Leu Glu Ser Glu Phe Ser Arg Gly Ile Ser Asp Asn Tyr Thr
 1075 1080 1085
 Leu Ala Leu Ile Thr Tyr Ala Leu Ser Ser Val Gly Ser Pro Lys Ala
 1090 1095 1100
 Lys Glu Ala Leu Asn Met Leu Thr Trp Arg Ala Glu Gln Glu Gly Gly
 1105 1110 1115 1120
 Met Gln Phe Irp Val Ser Ser Glu Ser Lys Leu Ser Asp Ser Trp Gln
 1125 1130 1135
 Pro Arg Ser Leu Asp Ile Glu Val Ala Ala Tyr Ala Leu Leu Ser His
 1140 1145 1150
 Phe Leu Gln Phe Gln Thr Ser Glu Gly Ile Pro Ile Met Arg Trp Leu
 1155 1160 1165
 Ser Arg Gln Arg Asn Ser Leu Gly Gly Phe Ala Ser Thr Gln Asp Thr
 1170 1175 1180
 Thr Val Ala Leu Lys Ala Leu Ser Gln Phe Ala Ala Leu Met Asn Thr
 1185 1190 1195 1200
 Glu Arg Tar Asn Ile Gln Val Thr Val Thr Gly Pro Ser Ser Pro Ser
 1205 1210 1215
 Pro Val Lys Phe Leu Ile Asp Thr His Asn Arg Leu Leu Leu Gln Thr
 1220 1225 1230
 Ala Glu Leu Ala Val Val Gln Pro Thr Ala Val Asn Ile Ser Ala Asn
 1235 1240 1245
 Gly Phe Gly Phe Ala Ile Cys Gln Leu Asn Val Val Tyr Asn Val Lys
 1250 1255 1260
 Ala Ser Gly Ser Ser Arg Arg Arg Ser Ile Gln Asn Gln Glu Ala
 1265 1270 1275 1280
 Phe Asp Leu Asp Val Ala Val Lys Gln Asn Lys Asp Asp Leu Asn His
 1285 1290 1295
 Val Asp Leu Asn Val Cys Tar Ser Phe Ser Gly Pro Gly Arg Ser Gly
 1300 1305 1310
 Met Ala Leu Met Gln Val Asn Leu Leu Ser Gly Phe Met Val Pro Ser
 1315 1320 1325
 Glu Ala Ile Ser Leu Ser Glu Thr Val Lys Lys Val Glu Tyr Asp His
 1330 1335 1340
 Gly Lys Leu Asn Leu Tyr Leu Asp Ser Val Asn Gln Thr Gln Phe Cys
 1345 1350 1355 1360
 Val Asn Ile Pro Ala Val Arg Asn Phe Lys Val Ser Asn Thr Gln Asp
 1365 1370 1375
 Ala Ser Val Ser Ile Val Asp Tyr Tyr Glu Pro Arg Arg Gln Ala Val
 1380 1385 1390
 Arg Ser Tyr Asn Ser Glu Val Lys Leu Ser Ser Cys Asp Leu Cys Ser
 1395 1400 1405
 Asp Val Gln Gly Cys Arg Pro Cys Gln Asp Gly Ala Ser Gly Ser His
 1410 1415 1420
 His His Ser Ser Val Ile Phe Ile Phe Cys Phe Lys Leu Leu Tyr Phe
 1425 1430 1435 1440
 Met Glu Leu Trp Leu
 1445

0210 - 32
 0211 - 582
 0212 - PRT
 0213 - Homo sapiens

0400 - 32
 Met Phe Pro Ala Gly Pro Pro Ser His Ser Leu Leu Arg Leu Pro Leu
 1 5 10 15
 Leu Gln Leu Leu Leu Val Val Gln Ala Val Gly Arg Gly Leu Gly
 20 25 30

Arg Ala Ser Pro Ala Gly Gly Pro Leu Glu Asp Val Val Ile Glu Arg
 45 45 45
 Tyr His Ile Pro Arg Ala Cys Pro Arg Glu Val Gln Met Gly Asp Phe
 50 50 50
 Val Arg Tyr His Tyr Asn Gly Thr Phe Glu Asp Gly Lys Lys Phe Asp
 55 55 55
 Ser Ser Tyr Asp Arg Asn Phe Leu Val Ala Ile Val Val Gly Val Gly
 60 60 60
 Arg Leu Ile Thr Gly Met Asp Arg Gly Leu Met Gly Met Cys Val Asn
 65 65 65
 Glu Arg Arg Arg Ser Ile Val Pro Pro His Leu Gly Tyr Gly Ser Ile
 70 70 70
 Gly Leu Ala Gly Leu Ile Pro Pro Asp Ala Thr Leu Tyr Phe Asp Val
 75 75 75
 Val Leu Leu Asp Val Trp Asn Lys Glu Asp Phe Val Gln Val Ser Thr
 80 80 80
 Leu Leu Arg Pro Pro His Cys Pro Arg Met Val Gln Asp Gly Asp Phe
 85 85 85
 Val Arg Tyr His Tyr Asn Gly Thr Leu Leu Asp Gly Thr Ser Phe Asp
 90 90 90
 Thr Ser Tyr Ser Lys Gly Gly Thr Tyr Asp Thr Tyr Val Gly Ser Gly
 95 95 95
 Trp Leu Ile Lys Gly Met Asp Gln Gly Leu Leu Gly Met Cys Pro Gly
 100 100 100
 His Arg Arg Lys Ile Ile Ile Pro Pro Pro Leu Ala Tyr Gly Glu Lys
 105 105 105
 Lys Tyr Gly Thr Val Ile Pro Pro Gln Ala Ser Leu Val Phe His Val
 110 110 110
 Ser Ser Ile Asp Val His Asn Pro Lys Asn Ala Val Gln Leu Glu Thr
 115 115 115
 Leu Ile Leu Pro Pro Gly Cys Val Arg Arg Ala Gly Ala Gly Asp Phe
 120 120 120
 Met Arg Tyr His Tyr Asn Gly Ser Leu Met Asp Gly Thr Leu Phe Asp
 125 125 125
 Ser Ser Tyr Ser Arg Asn His Ile Tyr Asn Thr Tyr Ile Gly Gln Gly
 130 130 130
 Tyr Ile Ile Pro Gly Met Asp Gln Gly Leu Gln Gly Ala Cys Met Gly
 135 135 135
 Glu Arg Arg Arg Ile Thr Ile Pro Pro His Leu Ala Tyr Gly Glu Asn
 140 140 140
 Gly Thr Gly Asp Lys Ile Pro Gly Ser Ala Val Leu Ile Phe Asn Val
 145 145 145
 His Val Ile Arg Phe His Asn Pro Ala Asp Val Val Glu Ile Arg Thr
 150 150 150
 Leu Ser Arg Pro Ser Gln Thr Cys Asn Glu Thr Thr Lys Leu Gly Asp
 155 155 155
 Phe Val Arg Tyr His Tyr Asn Cys Ser Leu Leu Asp Gly Thr Gln Leu
 160 160 160
 Phe Thr Ser His Asp Tyr Gly Ala Pro Gln Glu Ala Thr Leu Gly Ala
 165 165 165
 Asn Lys Val Ile Glu Gly Leu Asp Thr Gly Leu Gln Gly Met Cys Val
 170 170 170
 Gly Glu Arg Arg Gln Leu Ile Val Pro Pro His Leu Ala His Gly Glu
 175 175 175
 Ser Gly Ala Arg Gly Val Pro Gly Ser Ala Val Leu Leu Phe Glu Val
 180 180 180
 Glu Leu Val Ser Arg Glu Asp Gly Leu Pro Thr Gly Tyr Leu Phe Val
 185 185 185
 Trp His Lys Asp Pro Pro Ala Asn Leu Phe Glu Asp Met Asp Leu Asn
 190 190 190
 Lys Asp Gly Glu Val Pro Pro Gln Glu Phe Ser Thr Phe Ile Lys Ala
 195 195 195

515	520	525
Gln Val Ser Glu Gly Lys	Gly Arg Leu Met Pro Gly Gln Asp Pro Glu	
530	535	540
Lys Thr Ile Gly Asp Met	Phe Gln Asn Gln Asp Arg Asn Gln Asp Gly	
545	550	555
Lys Ile Thr Val Asp Glu	Leu Lys Leu Lys Ser Asp Glu Asp Glu Glu	
560	565	570
Arg Val His Glu Glu Leu		
580		

<210> 33
 <211> 410
 <212> PRT
 <213> Homo sapiens

<400> 33
 Met Glu Leu Pro Ser Gly Pro Gly Pro Glu Arg Leu Phe Asp Ser His
 1 10 15
 Arg Leu Pro Gly Asp Cys Phe Leu Leu Val Leu Leu Leu Tyr Ala
 20 25 30
 Pro Val Gly Phe Cys Leu Leu Val Leu Arg Leu Phe Leu Gly Ile His
 35 40 45
 Val Phe Leu Val Ser Cys Ala Leu Pro Asp Ser Val Leu Arg Arg Phe
 50 55 60
 Val Val Arg Thr Met Cys Ala Val Leu Gly Leu Val Ala Arg Gln Glu
 65 70 75 80
 Asp Ser Gly Leu Arg Asp His Ser Val Arg Val Leu Ile Ser Asn His
 85 90 95
 Val Thr Pro Phe Asp His Asn Ile Val Asn Leu Leu Thr Thr Cys Ser
 100 105 110
 Thr Pro Leu Leu Asn Ser Pro Pro Ser Phe Val Cys Trp Ser Arg Gly
 115 120 125
 Phe Met Glu Met Asn Gly Arg Gly Glu Leu Val Glu Ser Leu Lys Arg
 130 135 140
 Phe Cys Ala Ser Thr Arg Leu Pro Pro Thr Pro Leu Leu Leu Phe Pro
 145 150 155 160
 Glu Glu Glu Ala Thr Asn Gly Arg Glu Gly Leu Leu Arg Phe Ser Ser
 165 170 175
 Trp Pro Phe Ser Leu Gln Asp Val Val Gln Pro Leu Thr Leu Gln Val
 180 185 190
 Gln Arg Pro Leu Val Ser Val Thr Val Ser Asp Ala Ser Trp Val Ser
 195 200 205
 Gln Leu Leu Trp Ser Leu Phe Val Pro Phe Thr Val Tyr Gln Val Arg
 210 215 220
 Trp Leu Arg Pro Val His Arg Gln Leu Gly Glu Ala Asn Glu Glu Phe
 225 230 235 240
 Ala Leu Arg Val Gln Gln Leu Val Ala Lys Glu Leu Gly Gln Thr Gly
 245 250 255
 Thr Arg Leu Thr Pro Ala Asp Lys Ala Glu His Met Lys Arg Gln Arg
 260 265 270
 His Pro Arg Leu Arg Pro Gln Ser Ala Gln Ser Ser Phe Pro Pro Ser
 275 280 285
 Pro Gly Pro Ser Pro Asp Val Gln Leu Ala Thr Leu Ala Gln Arg Val
 290 295 300
 Lys Glu Val Leu Pro His Val Pro Leu Gly Val Ile Gln Arg Asp Leu
 305 310 315 320
 Ala Lys Thr Gly Cys Val Asp Leu Thr Ile Thr Asn Leu Leu Glu Gly
 325 330 335
 Ala Val Ala Phe Met Pro Glu Asp Ile Thr Lys Gly Thr Gln Ser Leu
 340 345 350
 Pro Thr Ala Ser Ala Ser Lys Phe Pro Ser Ser Gly Trp Val Thr Pro

355	360	365
Gln Pro Thr Ala Leu Thr Phe Ala Lys Ser Ser Trp Ala Arg Gln Glu		
370	375	380
Ser Leu Gln Glu Arg Lys Gln Ala Leu Tyr Glu Tyr Ala Arg Arg Arg		
385	390	395
Phe Thr Glu Arg Arg Ala Gln Glu Ala Asp		400
405	410	

<210> 34
 <211> 483
 <212> FRT
 <213> Homo sapiens

<400> 34

Met Glu Glu Gly Gly Gly Val Arg Ser Leu Val Pro Gly Gly Pro	
1 5 10 15	
Val Leu Leu Val Leu Cys Gly Leu Leu Glu Ala Ser Gly Gly Arg	
20 25 30	
Ala Leu Pro Gln Leu Ser Asp Asp Ile Pro Phe Arg Val Asn Trp Pro	
35 40 45	
Gly Thr Glu Phe Ser Leu Pro Thr Thr Gly Val Leu Tyr Lys Glu Asp	
50 55 60	
Asn Tyr Val Ile Met Thr Thr Ala His Lys Glu Lys Tyr Lys Cys Ile	
65 70 75 80	
Leu Pro Leu Val Thr Ser Gly Asp Glu Glu Glu Lys Asp Tyr Lys	
85 90 95	
Gly Pro Asn Pro Arg Glu Leu Leu Glu Pro Leu Phe Lys Gln Ser Ser	
100 105 110	
Cys Ser Tyr Arg Ile Glu Ser Tyr Trp Thr Tyr Glu Val Cys His Gly	
115 120 125	
Lys His Ile Arg Gln Tyr His Glu Glu Lys Glu Thr Gly Gln Lys Ile	
130 135 140	
Asn Ile His Glu Tyr Tyr Leu Gly Asn Met Leu Ala Lys Asn Leu Leu	
145 150 155 160	
Phe Glu Lys Glu Arg Glu Ala Glu Glu Lys Glu Lys Ser Asn Glu Ile	
165 170 175	
Pro Thr Lys Asn Ile Glu Gly Gln Met Thr Pro Tyr Tyr Pro Val Gly	
180 185 190	
Met Gly Asn Gly Thr Pro Cys Ser Leu Lys Gln Asn Arg Pro Arg Ser	
195 200 205	
Ser Thr Val Met Tyr Ile Cys His Pro Glu Ser Lys His Glu Ile Leu	
210 215 220	
Ser Val Ala Glu Val Thr Thr Cys Glu Tyr Glu Val Val Ile Leu Thr	
225 230 235 240	
Pro Leu Leu Cys Ser His Pro Lys Tyr Arg Phe Arg Ala Ser Pro Val	
245 250 255	
Asn Asp Ile Phe Cys Gln Ser Leu Pro Gly Ser Pro Phe Lys Pro Leu	
260 265 270	
Thr Leu Arg Gln Leu Glu Gln Gln Glu Glu Ile Leu Arg Val Pro Phe	
275 280 285	
Arg Arg Asn Lys Glu Glu Asp Leu Gln Ser Thr Lys Glu Glu Arg Phe	
290 295 300	
Pro Ala Ile His Lys Ser Ile Ala Ile Gly Ser Gln Pro Val Leu Thr	
305 310 315 320	
Val Gly Thr Thr His Ile Ser Lys Leu Thr Asp Asp Gln Leu Ile Lys	
325 330 335	
Glu Phe Leu Ser Gly Ser Tyr Cys Phe Arg Gly Gly Val Gly Trp Trp	
340 345 350	
Lys Tyr Glu Phe Cys Tyr Gly Lys His Val His Gln Tyr His Glu Asp	
355 360 365	
Lys Asp Ser Gly Lys Thr Ser Val Val Val Gly Thr Trp Asn Gln Glu	

370	375	380
Glu His Ile Glu Trp Ala Lys Lys Asn Thr Ala Arg Ala Tyr His Leu		
385	390	395
Gln Asp Asp Gly Thr Gln Thr Val Arg Met Val Ser His Phe Tyr Gly		400
	405	410
Asn Gly Asp Ile Cys Asp Ile Thr Asp Lys Pro Arg Gln Val Thr Val		415
	420	430
Lys Leu Lys Cys Lys Glu Ser Asp Ser Pro His Ala Val Thr Val Tyr		
	435	440
Met Leu Glu Pro His Ser Cys Gln Tyr Ile Leu Gly Val Glu Ser Pro		445
	450	460
Val Ile Cys Lys Ile Leu Asp Thr Ala Asp Glu Asn Gly Leu Leu Ser		
465	470	475
Leu Pro Asn		480

GI101: 35

GI111: 607

GI121: PRT

GI131: Homo sapiens

GI601: 15

Met Gly Phe Glu Glu Leu Leu Glu Gln Val Gly Gly Phe Gly Pro Phe		
1	10	15
Gln Leu Arg Asn Val Ala Leu Leu Ala Leu Pro Arg Val Leu Leu Pro		
	20	30
Leu His Phe Leu Leu Pro Ile Phe Leu Ala Ala Val Pro Ala His Arg		
	35	45
Cys Ala Leu Pro Gly Ala Pro Ala Asn Phe Ser His Gln Asp Val Trp		
	50	60
Leu Glu Ala His Leu Pro Arg Glu Pro Asp Gly Thr Leu Ser Ser Cys		
	65	75
Leu Arg Phe Ala Tyr Pro Gln Ala Leu Pro Asn Thr Thr Leu Gly Gln		
	80	90
Glu Arg Gln Ser Arg Gly Glu Leu Gln Asp Glu Pro Ala Thr Val Pro		
	100	110
Cys Ser Gln Gly Trp Glu Tyr Asp His Ser Glu Phe Ser Ser Thr Ile		
	115	125
Ala Thr Glu Ser Gln Val Gly Ile Tyr Ile Ile His Leu Glu Val Glu		
	130	140
Cys Arg Trp Arg Gln Ser Pro Trp Glu Ala Ala Gly Arg Gly Leu Pro		
	145	155
Trp Glu Glu Ala Glu Ala Ala Gly Leu Gly Arg Asp Lys Val Ser Tyr		
	160	170
Ser Pro Ser Trp Arg Glu Ser Leu Gly Gly Leu Leu Ser Gly Met Gln		
	175	185
Trp Asp Leu Val Cys Glu Gln Lys Gly Leu Asn Arg Ala Ala Ser Thr		
	190	200
Phe Phe Phe Ala Gly Val Leu Val Gly Ala Val Ala Phe Gly Tyr Leu		
	205	215
Ser Asp Arg Phe Gly Arg Arg Leu Leu Leu Val Ala Tyr Val Ser		
	220	230
Thr Leu Val Leu Gly Leu Ala Ser Ala Ala Ser Val Ser Tyr Val Met		
	235	245
Phe Ala Ile Thr Arg Thr Leu Thr Gly Ser Ala Leu Ala Gly Phe Thr		
	250	260
Ile Ile Val Met Pro Leu Glu Leu Glu Trp Leu Asp Val Glu His Arg		
	265	275
Thr Val Ala Gly Val Leu Ser Ser Thr Phe Trp Thr Gly Gly Val Met		
	280	290
Leu Leu Ala Leu Val Gly Tyr Leu Ile Arg Asp Trp Arg Trp Leu Leu		
	295	300

309 310 315 320
 Leu Ala Val Thr Leu Pro Cys Ala Pro Gly Ile Leu Ser Leu Trp Trp
 325 330 335
 Val Pro Glu Ser Ala Arg Trp Leu Leu Thr Gln Gly His Val Lys Glu
 340 345 350
 Ala His Arg Tyr Leu Leu His Cys Ala Arg Leu Asn Gly Arg Pro Val
 355 360 365
 Cys Glu Asp Ser Phe Ser Gln Glu Ala Val Ser Lys Val Ala Ala Gly
 370 375 380
 Glu Arg Val Val Arg Arg Pro Ser Tyr Leu Asp Leu Phe Arg Thr Pro
 385 390 395 400
 Arg Leu Arg His Ile Ser Leu Cys Cys Val Val Val Trp Phe Gly Val
 405 410 415
 Asn Phe Ser Tyr Tyr Gly Leu Ser Leu Asp Val Ser Gly Leu Gly Leu
 420 425 430
 Asn Val Tyr Gln Thr Gln Leu Leu Phe Gly Ala Val Glu Leu Pro Ser
 435 440 445
 Lys Leu Leu Val Tyr Leu Ser Val Arg Tyr Ala Gly Arg Arg Leu Thr
 450 455 460
 Gln Ala Gly Thr Leu Leu Gly Thr Ala Leu Ala Phe Gly Thr Arg Leu
 465 470 475 480
 Leu Val Ser Ser Asp Met Lys Ser Trp Ser Thr Val Leu Ala Val Met
 485 490 495
 Gly Lys Ala Phe Ser Gln Ala Ala Phe Thr Thr Ala Tyr Leu Phe Thr
 500 505 510
 Ser Glu Leu Tyr Pro Thr Val Leu Arg Gln Thr Gly Met Gly Leu Thr
 515 520 525
 Ala Leu Val Gly Arg Leu Gly Gly Ser Leu Ala Pro Leu Ala Ala Leu
 530 535 540
 Leu Asp Gly Val Trp Leu Ser Leu Pro Lys Leu Thr Tyr Gly Gly Ile
 545 550 555 560
 Ala Leu Leu Ala Ala Gly Thr Ala Leu Leu Leu Pro Glu Thr Arg Gln
 565 570 575
 Ala Gln Leu Pro Glu Thr Ile Gln Asp Val Glu Arg Lys Ser Ala Pro
 580 585 590
 Thr Ser Leu Gln Gln Glu Glu Met Pro Met Lys Gln Val Gln Asn
 595 600 605

0100> 36
 0111> 514
 0112> ERT
 0113> Homo sapiens

0100> 36
 Met Gly Ala Arg Gly Ala Leu Leu Leu Ala Leu Leu Leu Ala Arg Ala
 1 5 10 15
 Gly Leu Arg Lys Pro Glu Ser Gln Glu Ala Ala Pro Leu Ser Gly Pro
 20 25 30
 Lys Gly Arg Arg Val Ile Thr Ser Arg Ile Val Gly Gly Glu Asp Ala
 35 40 45
 Glu Leu Gly Arg Trp Pro Trp Gln Gly Ser Leu Arg Leu Trp Asp Ser
 50 55 60
 His Val Cys Gly Val Ser Leu Leu Ser His Arg Trp Ala Leu Thr Ala
 65 70 75 80
 Ala His Cys Phe Glu Thr Tyr Ser Asp Leu Ser Asp Pro Ser Gly Trp
 85 90 95
 Met Val Gln Phe Gly Gln Leu Thr Ser Met Pro Ser Phe Trp Ser Leu
 100 105 110
 Gln Ala Tyr Tyr Thr Arg Tyr Phe Val Ser Asn Ile Tyr Leu Ser Pro
 115 120 125
 Arg Tyr Leu Gly Asn Ser Pro Tyr Asp Ile Ala Leu Val Lys Leu Ser

130	135	140
Ala Pro Val Thr Tyr Thr Lys His Ile Gln Pro Ile Cys Leu Gln Ala		
145	150	155
Ser Thr Phe Glu Phe Glu Asn Arg Thr Asp Cys Trp Val Thr Gly Trp		160
	165	170
Gly Tyr Ile Lys Glu Asp Glu Ala Leu Pro Ser Pro His Thr Leu Gln		175
	180	185
Glu Val Gln Val Ala Ile Ile Asn Asn Ser Met Cys Asn His Leu Phe		190
	195	200
Leu Lys Tyr Ser Phe Arg Lys Asp Ile Phe Gly Asp Met Val Cys Ala		205
	210	215
Gly Asn Ala Gln Gly Gly Lys Asp Ala Cys Phe Gly Asp Ser Gly Gly		220
225	230	235
Pro Leu Ala Cys Asn Lys Asn Gly Leu Trp Tyr Gln Ile Gly Val Val		240
	245	250
Ser Trp Gly Val Gly Cys Gly Arg Pro Asn Arg Pro Gly Val Tyr Thr		255
	260	265
Asn Ile Ser His His Phe Glu Trp Ile Gln Lys Leu Met Ala Gln Ser		270
	275	280
Gly Met Ser Gln Pro Asp Pro Ser Trp Pro Leu Leu Phe Phe Pro Leu		285
	290	295
Leu Trp Ala Leu Pro Leu Leu Gly Pro Val		300
305	310	

<210> 37
 <211> 34
 <212> PRT
 <213> Homo sapiens

4300: 37
Met Glu Leu Ser Asp Val Thr Leu Ile Glu Gly Val Gly Asn Gln Val
1 5 10 15
Met Val Val Ala Gly Val Val Val Leu Ile Leu Ala Leu Val Leu Ala
20 25 30
Trp Leu Ser Thr Tyr Val Ala Asp Ser Gly Ser Asn Gln Leu Leu Gly
35 40 45
Ala Ile Val Ser Ala Gly Asp Thr Ser Val Leu His Leu Gly His Val
50 55 60
Asp His Leu Val Ala Gly Gln Gly Asn Pro Glu Pro Thr Glu Leu Pro
65 70 75 80
His Pro Ser Glu Ala Asn Thr Ser Leu Asp Lys Lys Ala Arg
85 90

<210> 38
 <211> 218
 <212> PRT
 <213> Homo sapiens

4400: 38
Met Ala Ser Lys Ile Gly Ser Arg Arg Trp Met Leu Gln Leu Ile Met
1 5 10 15
Gln Leu Gly Ser Val Leu Leu Thr Arg Cys Pro Phe Trp Gly Cys Phe
20 25 30
Ser Gln Leu Met Leu Tyr Ala Gln Arg Ala Glu Ala Arg Arg Lys Pro
35 40 45
Asp Ile Pro Val Pro Tyr Leu Tyr Phe Asp Met Gly Ala Ala Val Leu
50 55 60
Cys Ala Ser Phe Met Ser Phe Gly Val Lys Arg Arg Trp Phe Ala Leu
65 70 75 80
Gly Ala Ala Leu Gln Leu Ala Ile Ser Thr Tyr Ala Ala Tyr Ile Gly
85 90 95

Gly Tyr Val His Tyr Gly Asp Trp Leu Lys Val Arg Met Tyr Ser Arg
 100 105 110
 Thr Val Ala Ile Ile Gly Gly Leu Ser Cys Val Gly Gln Arg Cys Trp
 115 120 125
 Gly Ala Val Pro Pro Glu Thr Ser Gln Pro Leu Pro Ala Val His Arg
 130 135 140
 Pro Gly Val Pro Gly Tyr Leu Pro His Leu Cys Gly Leu Leu Thr Ala
 145 150 155 160
 Ala Gln Gln Gly Gly Pro Ala Gly Val Ser Glu Pro Ser Pro Arg Arg
 165 170 175
 Gly Ala Asp Asp Pro Ala Val Leu Arg Ala Val Trp His Pro Gly Pro
 180 185 190
 Gly Leu Ser Val Arg Leu Leu Arg Asp Pro Arg Cys Pro Asp Pro Gly
 195 200 205
 Cys Thr Ala Ala Pro Cys His Ala Ala His
 210 215

<210> 39

<211> 460

<212> PRT

<213> Homo sapiens

<400> 39

Met Phe Thr Ile Lys Leu Leu Leu Phe Ile Val Pro Leu Val Ile Ser
 1 10 15
 Ser Arg Ile Asp Gln Asp Asn Ser Ser Phe Asp Ser Leu Ser Pro Glu
 20 25 30
 Pro Lys Ser Arg Phe Ala Met Leu Asp Asp Val Lys Ile Leu Ala Asn
 35 40 45
 Gly Leu Leu Gln Leu Gly His Gly Leu Lys Asp Phe Val His Lys Thr
 50 55 60
 Lys Gly Gln Ile Asn Asp Ile Phe Gln Lys Leu Asn Ile Phe Asp Gln
 65 70 75 80
 Ser Phe Tyr Asp Leu Ser Leu Gln Thr Ser Glu Ile Lys Glu Glu Glu
 85 90 95
 Lys Glu Leu Arg Arg Thr Thr Tyr Lys Leu Gln Val Lys Asn Glu Glu Glu
 100 105 110
 Val Lys Asn Met Ser Leu Glu Leu Asn Ser Lys Leu Glu Ser Leu Leu
 115 120 125
 Glu Glu Lys Ile Leu Leu Gln Gln Lys Val Lys Tyr Leu Glu Glu Glu
 130 135 140
 Leu Thr Asn Leu Ile Gln Asn Gln Pro Glu Thr Pro Glu His Pro Glu
 145 150 155 160
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 Tyr Cys Asp Val Ile Ser Gly Ser Pro Trp Thr Leu Ile Gln His Arg
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 Ile Asp Gly Ser Gln Asn Phe Asn Glu Thr Trp Glu Asn Tyr Lys Tyr
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 <23> DNA
 <24> Homo sapiens

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 <213> Homo sapiens

<400> 46						
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 <211> 282
 <212> DNA
 <213> Homo sapiens

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 <211> 654
 <212> DNA
 <213> Homo sapiens

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 <212> DNA
 <213> Homo sapiens

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 agaactccat ataaactaca agtcaaaaaa gaagaggtta agaatatgt acctgaactt 360
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 aatcagctca gaaggactag tattcaagaa cccacagaaa tttctctatc ttccaagcca 660
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 <211> 648
 <212> DNA
 <213> Homo sapiens

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 ttctttctca catttgggtgg cttctctctt tttgctctat tctgtgtcag gttcttggaa 180
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 gcaagggaac atgaagcctt tgaagtgcac gtctatgaag aggtcttggg gggactagaa 300
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<210> 61

<211> 4473

<212> DNA

<213> Homo sapiens

<220>

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<222> (45)...(4332)

<400> 61

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Pro Leu Leu Thr Ala Ala His Leu Leu Cys Val Cys Thr Ala Ala Leu
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Ala Val Ala Pro Gly Pro Arg Phe Leu Val Thr Ala Pro Gly Ile Ile
25 30 35
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Arg Pro Gly Gly Asn Val Thr Ile Gly Val Glu Leu Leu Glu His Cys
40 45 50
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Pro Ser Gln Val Thr Val Lys Ala Glu Leu Leu Lys Thr Ala Ser Asn
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Leu Thr Val Ser Val Leu Glu Ala Glu Gly Val Phe Glu Lys Gly Ser
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Phe Lys Thr Leu Thr Pro Ser Leu Pro Leu Asn Ser Ala Asp Glu
85 90 95 100
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Ile Tyr Glu Leu Arg Val Thr Gly Arg Thr Gln Asp Glu Ile Leu Phe
105 110 115
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Ser Asn Ser Thr Arg Leu Ser Phe Glu Thr Lys Arg Ile Ser Val Phe
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Ile Gln Thr Asp Lys Ala Leu Tyr Lys Pro Lys Gln Glu Val Lys Phe
135 140 145
cgc att gtt aca ctg ttc tca gat ttt aag cct tac aaa acc tct tta 536
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Ser His Pro Ile Leu Gly Asp Trp Ser Ile Gln Val Gln Val Asn Asp
200 205 210
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Gln Thr Tyr Tyr Gln Ser Phe Gln Val Ser Glu Tyr Val Leu Pro Lys
215 220 225

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Ser Met Ala Val His Ser Leu Phe Lys Ser Pro Ser Lys Thr Tyr Ile	
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Val Tyr Tyr Ile Glu Asp Asp Gly Glu Ile Ile Ser Asp Val Leu Lys	
535 540 545	
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Met Pro Tyr Gly Tyr Gly Gln Gln Gln Met Ile Asn Phe Ala Pro Asn			
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Lys Tyr Gln Pro Asn Ile Asp Val Gln Gln Ser Ile His Phe Leu Gln			
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Gln Thr Ser Gln Gly Ile Pro Ile Met Arg Trp Leu Ser Arg Gln Arg			
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act agt ttg ggt agt ttt gca tct act cag gat acc act ttg gct tta			3608
Asn Ser Leu Gly Gly Phe Ala Ser Thr Gln Asp Thr Thr Val Ala Leu			
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Lys Ala Leu Ser Gln Phe Ala Ala Leu Met Asn Thr Gln Arg Thr Asn			
1190	1195	1200	

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 Ile Gln Val Thr Val Thr Gly Pro Ser Ser Pro Ser Pro Val Lys Phe
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 ctg att gag aca cac aac cgg tta ctc ctt cag aca gca gag ctt gct 3752
 Leu Ile Asp Thr His Asn Arg Leu Leu Leu Gln Thr Ala Glu Leu Ala
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 Val Val Gln Pro Thr Ala Val Asn Ile Ser Ala Asn Gly Phe Gly Phe
 1240 1245 1250
 gct att tgt cag ctc aat gtt gta tat aat gtg aag gct tct ggg tct 3848
 Ala Ile Cys Gln Leu Asn Val Val Tyr Asn Val Lys Ala Ser Gly Ser
 1255 1260 1265
 tct aga aga cga aga tct atc caa aat caa gaa gcc ttt gat tta gat 3896
 Ser Arg Arg Arg Arg Ser Ile Gln Asn Gln Glu Ala Phe Asp Leu Asp
 1270 1275 1280
 gtt gct gta aaa gaa aat aaa gat gat ctc aat cat gtg gat ttg aat 3944
 Val Ala Val Lys Glu Asn Lys Asp Asp Leu Asn His Val Asp Leu Asn
 1285 1290 1295 1300
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 Val Cys Thr Ser Phe Ser Gly Pro Gly Arg Ser Gly Met Ala Leu Met
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 Glu Val Asn Leu Leu Ser Gly Phe Met Val Pro Ser Glu Ala Ile Ser
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 Leu Ser Glu Thr Val Lys Lys Val Glu Tyr Asp His Gly Lys Leu Asn
 1335 1340 1345
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 Leu Tyr Leu Asp Ser Val Asn Glu Thr Gln Phe Cys Val Asn Ile Pro
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 Ile Val Asp Tyr Tyr Glu Pro Arg Arg Gln Ala Val Arg Ser Tyr Asn
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 Ser Glu Val Lys Leu Ser Ser Cys Asp Leu Cys Ser Asp Val Gln Gly
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 Cys Arg Pro Cys Glu Asp Gly Ala Ser Gly Ser His His His Ser Ser
 1415 1420 1425
 gtc att ctt att ttc tgt ttc aag ctt ctg tac ttt atg gaa ctt tgg 4376
 Val Ile Phe Ile Phe Cys Phe Lys Leu Leu Tyr Phe Met Glu Leu Trp
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 ctg tgaattattt ttaaaggact ctgtgtaaca ctaacatttc cagtagtcac a 4430
 Leu
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Met Phe Pro Ala Gly Pro Pro Ser His Ser	
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Leu Leu Arg Leu Pro Leu Leu Gln Leu Leu Leu Leu Val Val Gln Ala	
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gtg ggg agg ggc ctg ggc cgc gcc agc cgc gcc ggg ggc ccc ctg gaa	207
Val Gly Arg Gly Leu Gly Arg Ala Ser Pro Ala Gly Gly Pro Leu Glu	
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gat gtg gtc atc gag agg tac cac atc ccc agg gtc tgt ccc ctg gaa	255
Asp Val Val Ile Glu Arg Tyr His Ile Pro Arg Ala Cys Pro Arg Glu	
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Val Gln Met Gly Asp Phe Val Arg Tyr His Tyr Asn Gly Thr Phe Glu	
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gat ggc aag aac ttt gat tca agc tat gat cgc aac acc ttg ggc gcc	351
Asp Gly Lys Lys Phe Asp Ser Ser Tyr Asp Arg Asn Thr Leu Val Ala	
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Ile Val Val Gly Val Gly Arg Leu Ile Thr Gly Met Asp Arg Gly Leu	
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Met Gly Met Cys Val Asn Glu Arg Arg Arg Leu Ile Val Pro Pro His	
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ctg ggc tat ggc agc atc ggc ctg ggc ggc atc att cca cgc gat gcc	495
Leu Gly Tyr Gly Ser Ile Gly Leu Ala Gly Leu Ile Pro Pro Asp Ala	
125 130 135	
acc ctc tac ttc gat gtg gtc ctg ctg gat gtg tgc aac aag gaa gac	543
Thr Leu Tyr Phe Asp Val Val Leu Leu Asp Val Trp Asn Lys Glu Asp	
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Thr Val Gln Val Ser Thr Leu Leu Arg Pro Pro His Cys Pro Asp Met	
155 160 165 170	
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Val Gln Asp Gly Asp Phe Val Arg Tyr His Tyr Asn Gly Thr Leu Leu	
175 180 185	
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Asp Gly Thr Ser Phe Asp Thr Ser Tyr Ser Lys Gly Gly Thr Tyr Asp	
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acc tac gtc ggc tct ggt tgg ctg atc aag ggc atc gac cag ggc ctg	735
Thr Tyr Val Gly Ser Gly Trp Leu Ile Lys Gly Met Asp Gln Gly Leu	
205 210 215	
ctg ggc atg ttc cct gga gag aca agc aag att att atc cct cca ttc	783
Leu Gly Met Cys Pro Gly Glu Arg Arg Lys Ile Ile Ile Pro Pro Phe	
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Leu Ala Tyr Gly Glu Lys Gly Tyr Gly Thr Val Ile Pro Pro Gln Ala	
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Ser Leu Val Pro His Val Leu Leu Ile Asp Val His Asn Pro Lys Asp	
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gct gtc cag cta gag acg ctg gag ctc ccc ccc ggc tgt gtc cgc aga	927
Ala Val Gln Leu Glu Thr Leu Glu Leu Pro Pro Gly Cys Val Arg Arg	
270 275 280	
gcc ggg gcc ggg gac ttc atg cgc tac cac tac aac ggc tcc ttg atg	975
Ala Gly Ala Gly Asp Phe Met Arg Tyr His Tyr Asn Gly Ser Leu Met	
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Asp Gly Thr Leu Phe Asp Ser Ser Tyr Ser Arg Asn His Thr Tyr Asn	
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acc tat atc ggg cag ggt tac atc atc ccc ggc atg gag cag ggc ctg	1071

Thr Tyr Ile Gly Gln Gly Tyr Ile Ile Pro Gly Met Asp Gln Gly Leu	
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cag ggt gcc tgc atg gga gaa ggc ggg aga att acc atc ccc ccg cac	1119
Gln Gly Ala Cys Met Gly Glu Arg Arg Arg Ile Thr Ile Pro Pro His	
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Leu Ala Tyr Gly Glu Asn Gly Thr Gly Asp Lys Ile Pro Gly Ser Ala	
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Val Leu Ile Phe Asn Val His Val Ile Asp Phe His Asn Pro Ala Asp	
365 370 375	
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Val Val Glu Ile Arg Thr Leu Ser Arg Pro Ser Glu Thr Cys Asn Glu	
380 385 390	
acc acc aag ctt ggg gac ttt gtt cga tac cat ttc aac tgt tct ttg	1311
Thr Thr Lys Leu Gly Asp Phe Val Arg Tyr His Tyr Asn Cys Ser Leu	
395 400 405 410	
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Leu Asp Gly Thr Gln Leu Phe Thr Ser His Asp Tyr Gly Ala Pro Gln	
415 420 425	
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Glu Ala Thr Leu Gly Ala Asn Lys Val Ile Glu Gly Leu Asp Thr Gly	
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Leu Gln Gly Met Cys Val Gly Glu Arg Arg Gln Leu Ile Val Pro Pro	
445 450 455	
caa ctg gcc caa cag tag agt gga gcc ggg gga gtc cca ggc agt gat	1503
His Leu Ala His Gly Glu Ser Gly Ala Arg Gly Val Pro Gly Ser Ala	
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Val Leu Leu Phe Gln Val Glu Leu Val Ser Arg Glu Asp Gly Leu Pro	
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aca gcc tac ctg ttc ctg tgg cac aag gac cat cat gcc aac ctg ttc	1599
Thr Gly Tyr Leu Phe Val Trp His Lys Asp Pro Pro Ala Asn Leu Phe	
495 500 505	
gaa gac atg gac ctg aac aag gat ggc gag gtc cat ccg gag gag ttc	1647
Glu Asp Met Asp Leu Asn Lys Asp Gly Glu Val Pro Pro Glu Glu Phe	
510 515 520	
tcc acc ttc atc aag ttc cta gtg agt gag ggt tta gga gcc ctg atg	1695
Ser Thr Phe Ile Lys Ala Gln Val Ser Glu Gly Lys Gly Arg Leu Met	
525 530 535	
cct ggg gag gac cat tag aaa acc ata gga gac atg ttc cag aac cag	1743
Pro Gly Gln Asp Pro Glu Lys Thr Ile Gly Asp Met Phe Gln Asn Gln	
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gac gcc aac cag gac ggc aag atc acc gtc gac gag ctg aag ctg aag	1791
Asp Arg Asn Gln Asp Gly Lys Ile Thr Val Asp Glu Leu Lys Leu Lys	
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Ser Asp Glu Asp Glu Glu Arg Val His Glu Glu Leu	
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 Met Glu Leu Pro Ser Gly Pro Gly
 1 5
 cgg gag cgg ctc ttt gac tgg cac cgg ctt ccg ggt gac tgc ttc cta 160
 Pro Glu Arg Leu Phe Asp Ser His Arg Leu Pro Gly Asp Cys Phe Leu
 10 15 20
 tgg ctc gtg ctg ctg ctc tac ggg cca gtc ggg ttc tgc ctc ctc gtc 208
 Leu Leu Val Leu Leu Leu Tyr Ala Pro Val Gly Phe Cys Leu Leu Val
 25 30 35 40
 tgg cgg ctc ttt ctc ggg atc cac gtc ttc ctg gtc agc tgc ggg ctg 256
 Leu Arg Leu Phe Leu Gly Ile His Val Phe Leu Val Ser Cys Ala Leu
 45 50 55
 cca gac agc gtc ctt cgg aga ttc gta gtg cgg acc atg tgt ggg gtg 304
 Pro Asp Ser Val Leu Arg Arg Phe Val Val Arg Thr Met Cys Ala Val
 60 65 70
 cta ggg ctc gtg ggc cgg cag gag gac tcc gga ctc cgg gat ccc agt 352
 Leu Gly Leu Val Ala Arg Gln Glu Asp Ser Gly Leu Arg Asp His Ser
 75 80 85
 gta agg gtc ctc att tcc aac cat gtg acc cct ttc gac cac aac ata 400
 Val Arg Val Leu Ile Ser Asn His Val Thr Pro Phe Asp His Asn Ile
 90 95 100
 gta aat ttg ctt acc acc cgt agc acc cct cta ctc aat agt ccc ccc 448
 Val Asn Leu Leu Thr Thr Cys Ser Thr Pro Leu Leu Asn Ser Pro Pro
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 agt ttt gtg tgc tgg tct cgg ggc ttc atg gag atg aat ggg cgg ggg 496
 Ser Phe Val Cys Trp Ser Arg Gly Phe Met Glu Met Asn Gly Arg Gly
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 Gln Leu Val Gln Ser Leu Lys Arg Phe Cys Ala Ser Thr Arg Leu Pro
 140 145 150
 acc act cct cgg ctg cta ttc cct gag gaa gag gcc acc aat gcc cgg 592
 Pro Thr Pro Leu Leu Leu Phe Pro Glu Glu Glu Ala Thr Asn Gly Arg
 155 160 165
 gag ggg ctc ctg cgc ttc agt tcc tgg cca ttt tct atc caa gat gtg 640
 Gln Gly Leu Leu Arg Phe Ser Ser Trp Pro Phe Ser Ile Gln Asp Val
 170 175 180
 gta caa cct ctt acc ctg caa gtt cag aga ccc ctg gtc tct gtg acc 688
 Val Gln Pro Leu Thr Leu Gln Val Gln Arg Pro Leu Val Ser Val Thr
 185 190 195 200
 gtg tca gat gac tcc tgg gtc tca gaa ctg ctg tgg tca ctt ttc gtc 736
 Val Ser Asp Ala Ser Trp Val Ser Glu Leu Leu Trp Ser Leu Phe Val
 205 210 215
 cct ttc acc gtc tat caa gta agg tgg ctt cgt cct gtt cat cgc caa 784
 Pro Phe Thr Val Tyr Gln Val Arg Trp Leu Arg Pro Val His Arg Gln
 220 225 230
 cta ggg gaa gcc aat gag gag ttt gca ctc cgt gta caa cag ctg gtg 832

Leu Gly Glu Ala Asn Glu Glu Phe Ala Leu Arg Val Gln Gln Leu Val
 235 240 245
 gcc aag gaa ttg ggc cag aca ggg aca cgg gtc act cca gct gac aaa 860
 Ala Lys Glu Leu Gly Gln Thr Gly Thr Arg Leu Thr Pro Ala Asp Lys
 250 255 260
 gca gag cac atg aag cga caa aga cac ccc aga ttg cgc ccc cag tca 928
 Ala Glu His Met Lys Arg Gln Arg His Pro Arg Leu Arg Pro Gln Ser
 265 270 275 280
 gcc cag tct tct ttc cct ccc tcc cct ggt cct tct cct gat gtg caa 976
 Ala Gln Ser Ser Phe Pro Pro Ser Pro Gly Pro Ser Pro Asp Val Gln
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 Leu Ala Thr Leu Ala Gln Arg Val Lys Glu Val Leu Pro His Val Pro
 300 305 310
 tgg ggt gtc atc cag aga gac ctg gcc aag act ggc tgt gta gac ttg 1072
 Leu Gly Val Ile Gln Arg Asp Leu Ala Lys Thr Gly Cys Val Asp Leu
 315 320 325
 act atc act aat ctg ctt gag ggg gcc gta gct ttc atg cct gaa gac 1120
 Thr Ile Thr Asn Leu Leu Glu Gly Ala Val Ala Phe Met Pro Glu Asp
 330 335 340
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 Ile Thr Lys Gly Thr Gln Ser Leu Pro Thr Ala Ser Ala Ser Lys Phe
 345 350 355 360
 gcc agc tct ggc cgg gtg acc cct cag cca aca gcc cta aca ttt gcc 1216
 Pro Ser Ser Gly Pro Val Thr Pro Gln Pro Thr Ala Leu Thr Phe Ala
 365 370 375
 aag tct tcc tgg gcc cgg cac gag agc ctg cag gag cgc aag caa gca 1264
 Lys Ser Ser Trp Ala Arg Gln Glu Ser Leu Gln Glu Arg Lys Gln Ala
 380 385 390
 cta tat gaa tac gca aga agg aga ttc aca gag aga cga gcc cag gag 1312
 Leu Tyr Glu Tyr Ala Arg Arg Arg Phe Thr Glu Arg Arg Ala Gln Glu
 395 400 405
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 Ala Asp
 410
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 Pro Gly Gly Pro Val Leu Leu Val Leu Cys Gly Leu Glu Ala Ser
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 ggc gcc gcc cga gcc ctt cct caa ctc agc gat gac atc cct ctc cga 148
 Gly Gly Gly Arg Ala Leu Pro Gln Leu Ser Asp Asp Ile Pro Phe Arg
 30 35 40
 gtc aac tgg ccg ggc acc gag ttc tct ctg ccc aca act gga gtt tta 196
 Val Asn Trp Pro Gly Thr Glu Phe Ser Leu Pro Thr Thr Gly Val Leu
 45 50 55 60
 tat aca gaa gat aat tat gtc atc atg aca act gca cat aca gaa aca 244

Tyr	Lys	Glu	Asp	Asn	Tyr	Val	Ile	Met	Thr	Thr	Ala	His	Lys	Glu	Lys	
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Tyr	Lys	Cys	Ile	Leu	Pro	Leu	Val	Thr	Ser	Gly	Asp	Glu	Glu	Glu	Glu	
			80					85					90			
ang	gat	tat	aaa	ggc	ccc	aat	cca	aaa	gag	ctt	tgg	gag	cca	cca	ctt	340
Lys	Asp	Tyr	Lys	Gly	Pro	Asn	Pro	Arg	Glu	Leu	Leu	Glu	Pro	Leu	Pro	
			85				100					105				
aaa	cca	agg	agt	tgt	ccc	cac	aga	att	gag	ctt	tat	tgg	act	tac	gaa	388
Lys	Gln	Ser	Ser	Cys	Ser	Tyr	Arg	Ile	Glu	Ser	Tyr	Trp	Thr	Tyr	Gln	
	110					115					120					
gaa	tgt	cat	gga	aaa	ccc	att	cca	cac	tac	cat	gaa	gag	aaa	gaa	aat	436
Val	Cys	His	Gly	Lys	His	Ile	Arg	Gln	Tyr	His	Glu	Glu	Lys	Glu	Thr	
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ggt	cag	aaa	ata	aat	att	cac	gag	tac	tac	ctt	ggg	aat	atg	tgg	gac	484
Gly	Gln	Lys	Ile	Asn	Ile	His	Glu	Tyr	Tyr	Leu	Gly	Asn	Met	Leu	Ala	
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aag	aac	ctt	cca	tat	gaa	aaa	gaa	cca	gaa	gca	gaa	gaa	aag	gaa	aat	532
Lys	Asn	Leu	Leu	Phe	Glu	Lys	Glu	Arg	Glu	Ala	Glu	Glu	Lys	Glu	Lys	
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cca	aat	gag	att	ccc	act	aaa	aat	atc	gaa	ggt	cag	atg	aca	cca	tac	580
Ser	Asn	Gln	Ile	Pro	Thr	Lys	Asn	Ile	Glu	Gly	Gln	Met	Thr	Pro	Tyr	
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Tyr	Pro	Val	Gly	Met	Gly	Asn	Gly	Thr	Pro	Cys	Ser	Leu	Lys	Gln	Asn	
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agg	ccc	aga	tga	agt	act	gtg	atg	tac	ata	tat	cat	ccc	gaa	ccc	agt	676
Arg	Pro	Arg	Ser	Ser	Thr	Val	Met	Tyr	Ile	Cys	His	Pro	Glu	Ser	Lys	
	205					210					215				220	
cat	gaa	att	cca	tga	gaa	ggt	gaa	ggt	aca	act	tgt	gaa	tat	gaa	ggt	724
His	Glu	Ile	Leu	Ser	Val	Ala	Glu	Val	Thr	Thr	Cys	Glu	Tyr	Glu	Val	
			225					230						235		
gtc	att	tgg	aca	cca	ctc	tgg	tgc	agt	cat	ccc	aaa	tat	aag	tcc	aga	772
Val	Ile	Leu	Thr	Pro	Leu	Leu	Cys	Ser	His	Pro	Lys	Tyr	Arg	Phe	Arg	
		240					245						250			
gca	tat	ccc	gtg	aat	gac	ata	ttt	tgt	caa	tca	cag	cca	gga	ccc	cca	820
Ala	Ser	Pro	Val	Asn	Asp	Ile	Phe	Cys	Gln	Ser	Leu	Pro	Gly	Ser	Pro	
	255					260						265				
tcc	aag	ccc	ctc	ccc	ctg	agg	cag	ctg	gag	cag	cag	gaa	gaa	ata	cca	868
Phe	Lys	Pro	Leu	Thr	Leu	Arg	Gln	Leu	Glu	Gln	Gln	Glu	Glu	Ile	Leu	
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agg	gtg	ccc	ttt	agg	aga	aat	aaa	gag	gaa	gat	tgg	caa	tca	act	aaa	916
Arg	Val	Pro	Phe	Arg	Arg	Asn	Lys	Glu	Glu	Asp	Leu	Gln	Ser	Thr	Lys	
	285			290						295					300	
gaa	gag	aga	ttt	cca	ggg	atc	ccc	aag	tgg	att	gat	att	ggc	tct	cag	964
Glu	Glu	Arg	Phe	Pro	Ala	Ile	His	Lys	Ser	Ile	Ala	Ile	Gly	Ser	Gln	
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Pro	Val	Leu	Thr	Val	Gly	Thr	Thr	His	Ile	Ser	Lys	Leu	Thr	Asp	Asp	
		320					325						330			
caa	ctc	ata	aaa	gag	ttt	ctt	agt	ggt	tat	tac	tgc	ttt	cgt	ggg	ggt	1060
Gln	Leu	Ile	Lys	Glu	Phe	Leu	Ser	Gly	Ser	Tyr	Cys	Phe	Arg	Gly	Gly	
		335					340						345			
gtc	ggt	tgg	tgg	aaa	tat	gaa	ttc	tgc	tat	ggc	aaa	cat	gta	cat	caa	1108
Val	Gly	Trp	Trp	Lys	Tyr	Glu	Phe	Cys	Tyr	Gly	Lys	Val	Val	His	Gln	
	350					355					360					
tac	cat	gag	gac	aag	gat	agt	ggg	aaa	acc	ctt	gtg	gtt	gtc	ggg	aca	1156
Tyr	His	Glu	Asp	Lys	Asp	Ser	Gly	Lys	Thr	Ser	Val	Val	Val	Gly	Thr	
	365				370					375				380		
tgg	aac	caa	gaa	gag	cat	att	gaa	tgg	ggt	aag	aag	aat	aat	ggt	aga	1204
Trp	Asn	Gln	Glu	Glu	His	Ile	Glu	Trp	Ala	Lys	Lys	Asn	Thr	Ala	Arg	

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      385      390      395
get tat cat ctt aaa gac gat ggt acc gag aca gtc agg atg gtg tca 1252
Ala Tyr His Leu Gln Asp Asp Gly Thr Gln Thr Val Arg Met Val Ser
      400      405      410
cat ttt tat gga aat gga gat att tgt gat ata act gac aaa cca aga 1300
His Phe Tyr Gly Asn Gly Asp Ile Cys Asp Ile Thr Asp Lys Pro Arg
      415      420      425
cag gtg act gta aaa cta aag tgc aaa gaa tca gat tca cct cat gct 1348
Gln Val Thr Val Lys Leu Lys Cys Lys Glu Ser Asp Ser Pro His Ala
      430      435      440
gtt act gta tat atg cta gag cct cag tcc tgt caa tat att ctt ggg 1396
Val Thr Val Tyr Met Leu Glu Pro His Ser Cys Gln Tyr Ile Leu Gly
      445      450      455      460
gtt gaa tct cca gtg atc tgt aaa atc tta gat aca gca gat gaa aat 1444
Val Glu Ser Pro Val Ile Cys Lys Ile Leu Asp Thr Ala Asp Glu Asn
      465      470      475
gga ctt ctt tct ctc ccc aac taaaggatat taaaggtagg ggaaa 1490
Gly Leu Leu Ser Leu Pro Asn
      480
gaaaagatca ttgaaagtca tgataatttc tgtcccaatg tgtctcatta tagagttctc 1550
agccattgga cctcttctaa aggatggtat aaaaagacac tcaaacactt tgtgaataca 1610
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 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (20)...(1843)

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Met Gly Phe Glu Glu Leu Leu Glu Gln Val Gly
      1      5      10
ggc ttt ggg ccc ttc caa ctg cgg aat gtg gca ctg ctg gac ctg ccc 100
Gly Phe Gly Pro Phe Gln Leu Arg Asn Val Ala Leu Leu Ala Leu Pro
      15      20      25
aga gtg ctg cta cca ctg cac ttc ctc ctg ccc atc ttc ctg gct gcc 148
Arg Val Leu Leu Pro Leu His Phe Leu Leu Pro Ile Phe Leu Ala Ala
      30      35      40
gtg cct gcc cac aga tgt gcc ctg cag ggt gcc cct gcc aac ttc agc 196
Val Pro Ala His Arg Cys Ala Leu Pro Gly Ala Pro Ala Asn Phe Ser
      45      50      55
cat cag gat gtg tgg ctg gag gcc cat ctt ccc cgg gag cct gat ggc 244
His Gln Asp Val Trp Leu Glu Ala His Leu Pro Arg Glu Pro Asp Gly
      60      65      70      75
agg ctg agc tcc tgc ctg cgc ttt gcc tat ccc cag gct ctg ccc aac 292
Ile Leu Ser Ser Cys Leu Arg Phe Ala Tyr Pro Gln Ala Leu Pro Asn
      80      85      90
acc acg tgg ggg gaa gaa agg cag agc cgt ggg gag ctg gag gat gaa 340
Thr Thr Leu Gly Glu Glu Arg Gln Ser Arg Gly Glu Leu Glu Asp Glu
      95      100      105
cct gcc aca gtg ccc tgc tct cag gcc tgg gag tac gac cac tca gaa 388
Pro Ala Thr Val Pro Cys Ser Gln Gly Trp Glu Tyr Asp His Ser Glu
      110      115      120
ttc tcc tct acc att gca act gag tcc cag gtc ggt att tac ata atc 436
Phe Ser Ser Thr Ile Ala Thr Glu Ser Gln Val Gly Ile Tyr Ile Ile
      125      130      135
cat ctc gag gtg gaa tgt cgg ttt agg cag tct ccc tgg gag gca gca 484

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His	Leu	Glu	Val	Glu	Cys	Arg	Trp	Arg	Gln	Ser	Pro	Trp	Glu	Ala	Ala		
141					145					150					155		
ggg	gga	ggc	ggt	gct	tgg	gaa	gaa	ggt	gag	ggt	gca	gga	ctg	ggg	agg	532	
Gly	Arg	Gly	Leu	Pro	Trp	Glu	Glu	Ala	Glu	Ala	Ala	Gly	Leu	Gly	Arg		
				160					165						170		
gac	aaa	ggt	tcc	tat	tcc	cca	agg	tgg	ggt	gaa	tgg	tgg	gga	ggg	tta	580	
Asp	Lys	Val	Ser	Tyr	Ser	Pro	Ser	Trp	Arg	Gln	Ser	Leu	Gly	Gly	Leu		
			175						180						185		
tta	tct	agt	atg	gag	tgg	tat	tgg	gtg	tgt	gag	cag	aaa	ggg	ctg	aac	628	
Leu	Ser	Gly	Met	Gln	Trp	Asp	Leu	Val	Cys	Gln	Gln	Lys	Gly	Leu	Asn		
			190						195						200		
aga	ggt	aaa	tcc	tcc	ttc	ttc	ttc	gac	ggt	gta	ctg	tgg	ggg	ggt	gtg	676	
Arg	Ala	Ala	Ser	Thr	Phe	Phe	Phe	Ala	Gly	Val	Leu	Val	Gly	Ala	Val		
			205						210						215		
ggc	tgt	gga	tat	tgg	tcc	aac	agg	tgt	ggg	ggg	agg	ggt	ggt	ctg	ctg	724	
Ala	Phe	Gly	Tyr	Leu	Ser	Asp	Arg	Phe	Gly	Arg	Arg	Arg	Leu	Leu	Leu		
			220						225						230		
gta	gta	tac	tgg	ggt	tcc	tgg	gtg	ggg	ggg	ggt	gga	tat	gaa	ggt	tcc	760	
Val	Ala	Tyr	Val	Ser	Thr	Leu	Val	Leu	Gly	Leu	Ala	Ser	Ala	Ala	Ser		
			235						240						245		
gtc	aga	tat	tta	gtg	tgt	tcc	tta	aaa	ggt	ggt	ggt	ggt	ggt	ggt	ggt	820	
Val	Ser	Tyr	Val	Met	Phe	Ala	Phe	Thr	Arg	Thr	Leu	Thr	Gly	Ser	Ala		
			250						255						260		
gta	ggt	ggt	tgt	tcc	atc	atc	gtg	atg	gaa	gtg	gag	gtg	gat	ggt	gtg	860	
Leu	Ala	Gly	Phe	Thr	Phe	Phe	Val	Met	Pro	Leu	Gln	Leu	Gln	Trp	Leu		
			265						270						275		
ggt	gtg	ggt	ggt	ggt	ggt	ggt	ggt	ggt	ggt	ggt	ggt	ggt	ggt	ggt	ggt	916	
Asp	Val	Gln	Ser	Arg	Thr	Val	Ala	Gly	Val	Leu	Ser	Ser	Thr	Pro	Trp		
			280						285						290		
gaa	ggg	ggg	gtg	gtg	gtg	gtg	gaa	gtg	ggt	ggg	tac	gtg	atc	ggg	gac	964	
Thr	Gly	Gly	Val	Met	Leu	Leu	Ala	Leu	Val	Gly	Tyr	Leu	Phe	Arg	Asp		
			295						300						305		
ggt	gga	ggg	ggt	gtg	gtg	ggt	ggt	ggt	ggt	ggt	ggt	ggt	ggt	ggt	ggt	1012	
Phe	Arg	Trp	Leu	Leu	Ala	Val	Thr	Leu	Pro	Cys	Ala	Pro	Gly	Phe			
			310						315						320		
gtg	gga	gtg	gtg	gtg	gtg	gtg	gtg	gtg	gtg	gtg	gtg	gtg	gtg	gtg	gtg	1060	
Leu	Ser	Leu	Trp	Trp	Val	Pro	Gln	Ser	Ala	Arg	Trp	Leu	Leu	Thr	Gln		
			325						330						335		
ggt	tat	gtg	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	1108	
Gly	His	Val	Lys	Gln	Ala	His	Arg	Tyr	Leu	Leu	His	Cys	Ala	Arg	Leu		
			340						345						350		
aat	ggg	ggg	gaa	tcc	tcc	gag	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	1156	
Asn	Gly	Arg	Pro	Val	Cys	Gln	Asp	Ser	Phe	Ser	Gln	Gln	Ala	Val	Ser		
			355						360						365		
gaa	gtg	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	gaa	1204	
Lys	Val	Ala	Ala	Gly	Gln	Arg	Val	Val	Arg	Arg	Pro	Ser	Tyr	Leu	Asp		
			370						375						380		
gtg	tac	ggg	gaa	gaa	ggg	gtg	gaa	tac	gaa	tac	gtg	tgg	tgg	tgg	tgg	1252	
Leu	Phe	Arg	Thr	Pro	Arg	Leu	Arg	His	Phe	Ser	Leu	Cys	Cys	Val	Val		
			385						390						395		
ggt	ggg	tac	gga	gtg	gaa	gtg	tac	tac	gaa	gtg	gaa	gtg	gaa	gtg	gtg	1300	
Val	Trp	Phe	Gly	Val	Asn	Phe	Ser	Tyr	Tyr	Gly	Leu	Ser	Leu	Asp	Val		
			400						405						410		
ggt	ggg	tac	ggg	gtg	gaa	gtg	tac	gag	gaa	gtg	gtg	gtg	gtg	gtg	gtg	1348	
Ser	Gly	Leu	Gly	Leu	Asn	Val	Tyr	Gln	Thr	Gln	Leu	Leu	Phe	Gly	Ala		
			415						420						425		
gtg	gaa	gtg	gaa	tcc	agg	gtg	gtg	gtg	gtg	gtg	gtg	gtg	gtg	gtg	gtg	1396	
Val	Gln	Leu	Pro	Ser	Lys	Leu	Leu	Val	Tyr	Leu	Ser	Val	Arg	Tyr	Ala		
			430						435						440		
ggt	gga	gtg	gtg	acc	gaa	ggc	ggg	gaa	gtg	gtg	ggc	acc	ggc	gtg	ggg	1444	
Gly	Arg	Arg	Leu	Thr	Gln	Ala	Gly	Thr	Leu	Leu	Gly	Thr	Ala	Leu	Ala		

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160          465          470          475
ttc ggc act aga ctg cta gtg tcc tct gat atg aag tcc tgg agc act      1492
Phe Gly Thr Arg Leu Leu Val Ser Ser Asp Met Lys Ser Trp Ser Thr
          480          485          490
gtc ctg gca gtg atg ggg aaa gct ttt tct gaa gct gcc ttc acc act      1540
Val Leu Ala Val Met Gly Lys Ala Phe Ser Glu Ala Ala Phe Thr Thr
          495          500          505
gcc tac ctg ttc act tca gag ttg tac cct acg gtg ctg aga cag aca      1588
Ala Tyr Leu Phe Thr Ser Glu Leu Tyr Pro Thr Val Leu Arg Gln Thr
          510          515          520
ggg atg ggg ctg act gca ctg gtg ggc ggg ctg ggg ggc tct ttg gcc      1636
Gly Met Gly Leu Thr Ala Leu Val Gly Arg Leu Gly Gly Ser Leu Ala
          525          530          535
aca ctg ggc gcc ttg ctg gat gga gtg tgg ctg tca ctg ccc aag ctt      1684
Pro Leu Ala Ala Leu Leu Asp Gly Val Trp Leu Ser Leu Pro Lys Leu
          540          545          550          555
act tat ggg ggg atc gcc ctg ctg gct gcc ggc acc gcc ctg ctg ctg      1732
Thr Tyr Gly Gly Ile Ala Leu Leu Ala Ala Gly Thr Ala Leu Leu Leu
          560          565          570
aca gag acg agg cag gca cag ctg cca gag acc atc cag gac ttg gag      1780
Pro Glu Thr Arg Gln Ala Gln Leu Pro Glu Thr Ile Gln Asp Val Glu
          575          580          585
aga aag agt gcc cca acc agt ctt cag gag gaa gag atg ccc atg aag      1828
Arg Lys Ser Ala Pro Thr Ser Leu Gln Glu Gln Gln Met Pro Met Lys
          590          595          600
cag gcc cag aac taagtgggag tggaggcagg ccttccacag aagctctgca      1880
Ala Val Gln Asn
          605
ttaggggttg ggagggcaga aggggaggga ctgaaactca ggtgggagt atcgaaacct      1940
tgcctaggg ccggagttgc tgcagtaac cgtccctctt gctcatccat ccttgattat      2000
tgggttcta ggaacagttg aactccaga atggagtggt ctgctgggca cccctccac      2060
gttggggag gattctgtaa ataaaggtgc ccttgggtt ggggcagttg tg      2112

(210> 36
(211> 1087
(212> DNA
(213> Homo sapiens

(220>
(221> CDS
(222> (33)...(977)

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Met Gly Ala Arg Gly Ala Leu
          1          5
ctg ctg ggc ctg ctg ctg gct ggg gct gga ctg agg aag cgg gag tgg      101
Leu Leu Ala Leu Leu Leu Ala Arg Ala Gly Leu Arg Lys Pro Glu Ser
          10          15          20
cag gag ggc ggc cgg tta tca gga cca tgc ggc cga cgg gtc atc acg      149
Gln Gln Ala Ala Pro Leu Ser Gly Pro Cys Gly Arg Arg Val Ile Thr
          25          30          35
tcg cgc atc gtg ggt gga gag gac gcc gaa ctg ggg cgt tgg ccg tgg      197
Ser Arg Ile Val Gly Gly Glu Asp Ala Glu Leu Gly Arg Trp Pro Trp
          40          45          50          55
cag ggg agc ctg cgc ctg tgg gat tcc ccc gta tgc gga gtg agc ctg      245
Gln Gly Ser Leu Arg Leu Trp Asp Ser His Val Cys Gly Val Ser Leu
          60          65          70
ctc agc ccc cgc tgg gca ctg aag ggc ggc ccc tgc ttc gaa acc tat      293
Leu Ser His Arg Trp Ala Leu Thr Ala Ala His Cys Phe Glu Thr Tyr
          75          80          85

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agt gac att agt gat ccc ccc ggg tgg atg gtc cag ttt ggc cag ctg      341
Ser Asp Leu Ser Asp Pro Ser Gly Trp Met Val Gln Phe Gly Gln Leu
          90                      95                      100

act tcc atg cca tcc ttc tgg agc ctg cag gcc tac tac acc cgt tac      389
Thr Ser Met Pro Ser Phe Trp Ser Leu Gln Ala Tyr Tyr Thr Arg Tyr
          105                      110                      115

ttc gta tcc aat atc tat ctg agc cct cgc tac ctg ggg aat tca ccc      437
Phe Val Ser Asn Ile Tyr Leu Ser Pro Arg Tyr Leu Gly Asn Ser Pro
          120                      125                      130

tat cag att gcc ttg gtg aac ctg tct gca cct gtc acc tac aat aac      485
Tyr Asp Ile Ala Leu Val Lys Leu Ser Ala Pro Val Thr Tyr Thr Lys
          140                      145                      150

cac atc cag ccc atc tgt ctg cag gcc tcc aca ttt gag ttt gag aac      533
His Ile Gln Pro Ile Cys Leu Gln Ala Ser Thr Phe Gln Phe Gln Asn
          155                      160                      165

cgg aca gac tgc tgg gtg aac ggc tgg ggg tac atc aac gag gat gag      581
Arg Thr Asp Cys Trp Val Thr Gly Trp Gly Tyr Ile Lys Gln Asp Gln
          170                      175                      180

gca ctg cca tct ccc cag acc ctg cag gaa gtt cag gtc gcc atc ata      629
Ala Leu Pro Ser Pro His Thr Leu Gln Gln Val Gln Val Ala Ile Ile
          185                      190                      195

aac aac tct atg tgc aac cag ctg ttc ctg aag tac agt ttc cgc aag      677
Asn Asn Ser Met Cys Asn His Leu Phe Leu Lys Tyr Ser Phe Arg Lys
          200                      205                      210

gac atc ttc gga gac atg gtt tgt gct ggc aat gcc caa ggc ggg aag      725
Asp Ile Phe Gly Asp Met Val Cys Ala Gly Asn Ala Gln Gly Gly Lys
          220                      225                      230

gat gac tgc ttc ggt gac tca ggt gga ccc ttc gcc tgt aac aag aat      773
Asp Ala Cys Phe Gly Asp Ser Gly Gly Pro Leu Ala Cys Asn Lys Asn
          235                      240                      245

gga ctg tgg tat cag att gga gtc gtg agc tgg gga gtg gcc tat ggt      821
Gly Leu Trp Tyr Gln Ile Gly Val Val Ser Trp Gly Val Gly Cys Gly
          250                      255                      260

cgt tcc aac cgg ccc ggt gtc tac acc aat atc agc cag cag ttt gag      869
Arg Pro Asn Arg Pro Gly Val Tyr Thr Asn Ile Ser His His Phe Gln
          265                      270                      275

tgg atc cag aag ctg atg gcc cag agt ggc atg tcc cag cca gac ccc      917
Trp Ile Gln Lys Leu Met Ala Gln Ser Gly Met Ser Gln Pro Asp Pro
          280                      285                      290

tcc tgg ccc cta ctg ttt ttc cct ctt ctg tgg gct ctg cca ctg ctg      965
Ser Trp Pro Leu Leu Phe Phe Pro Leu Leu Trp Ala Leu Pro Leu Leu
          300                      305                      310

ggg cgg gtc tgagcctacc tgagcccattg cagcctgggg ccactgccaa gtcagg      1020
Gly Pro Val

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cactgtttct ctctgtcttt gtttggtaat aaacacattc cagttgatgc ctgacagggc      1080
attcttc                                     1087

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 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (216)...(500)

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ccatggaa cagtcacac gaggaggga taggaacac caaagcgga accttggct      180

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cagaaaaagg cgtggaccut gccagcagcc aggcc atg gag ctc tct gat gtc 233
Met Glu Leu Ser Asp Val
1 5

acc ctg att gag ggt gtg ggt aat gag gtg atg gtg gtg gca ggt gtg 281
Thr Leu Ile Glu Gly Val Gly Asn Glu Val Met Val Val Ala Gly Val
10 15 20

gtg gtg ctg att cta gcc ttg gtc cta gct tgg ctc tct acc tac gta 329
Val Val Leu Ile Leu Ala Leu Val Leu Ala Trp Leu Ser Thr Tyr Val
25 30 35

gca gag agc ggt agc aac cag ctc ctg ggc gct att gtg tca gca ggc 377
Ala Asp Ser Gly Ser Asn Gln Leu Leu Gly Ala Ile Val Ser Ala Gly
40 45 50

gac aca tcc gtc ctc cac ctg ggg cat gtg gac cac ctg gtg gca ggc 425
Asp Thr Ser Val Leu His Leu Gly His Val Asp His Leu Val Ala Gly
55 60 65 70

caa ggc aac cag gag cca act gaa ctc ccc cat cca tca gag gca aat 473
Gln Gly Asn Pro Glu Pro Thr Glu Leu Pro His Pro Ser Glu Ala Asn
75 80 85

act tcc ctg gac aag aaa gcc aga tgaactgat ctaccagggc cgc 520
Thr Ser Leu Asp Lys Lys Ala Arg
90

ctgctacaag acccagcccg cacactgggt tctctgaaca ctaccgacaa ctgtgtgatt 580
actgcacac gccacacccc agggcagct gtctcagggc cctcagcctc ctgtggcccc 640
tcgggcactg agccacccag ccttgggtgt aatgtgggca gctcctatgt gctgtctctt 700
gtgggtgtgt tgggtgtgtt ctggtacttc cgaatcaatt accgcccaatt ctccacagca 760
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caggtgttaa gcaagagaca gcaatggccc ttggccagcg tctacccctg cccactcca 1600
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<212> DNA

<213> Homo sapiens

<220>

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<222> (12)...(668)

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1 5 10

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Leu Ile Met Gln Leu Gly Ser Val Leu Leu Thr Arg Cys Pro Phe Trp
15 20 25

ggc tgc ttc agc cag ctc atg ctg tac gct gag agg gct gag gca cgc 146
Gly Cys Phe Ser Gln Leu Met Leu Tyr Ala Gln Arg Ala Glu Ala Arg
30 35 40 45

cgg aag ccc gac atc cca gtc cct tac ctg tat ttc gac atg ggg gca 194
 Arg Lys Pro Asp Ile Pro Val Pro Tyr Leu Tyr Phe Asp Met Gly Ala
 50 55 60
 gcc gtg ctg tgc gct agt ttc atg tcc ttt ggc gtg aag cgg cgc tgg 242
 Ala Val Leu Cys Ala Ser Phe Met Ser Phe Gly Val Lys Arg Arg Trp
 65 70 75
 ttc ggc ctg ggg gcc gaa ctc caa tgg gcc att agc acc tac gcc gcc 290
 Phe Ala Leu Gly Ala Ala Leu Gln Leu Ala Ile Ser Thr Tyr Ala Ala
 80 85 90
 tac atc ggg gcc tac gtc cac tac ggg gac tgg ctg aag gtc cgt atg 338
 Tyr Ile Gly Gly Tyr Val His Tyr Gly Asp Trp Leu Lys Val Arg Met
 95 100 105
 tac tgg cgc aca gct gcc atc atc ggc gga ctt tct tgt gtt gcc sag 386
 Tyr Ser Arg Thr Val Ala Ile Ile Gly Gly Leu Ser Cys Val Gly Gln
 110 115 120 125
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 Arg Cys Trp Gly Ala Val Pro Pro Gln Thr Ser Gln Pro Leu Pro Ala
 130 135 140
 gtc cac cgg cca ggt gtt cct ggg tat cta cct cat ctc tgt gcc cta 482
 Val His Arg Pro Gly Val Pro Gly Tyr Leu Pro His Leu Cys Gly Leu
 145 150 155
 ctc act gca gaa cag caa gga gga cgg gct ggc gta tct gaa cca tct 530
 Leu Thr Ala Ala Gln Gln Gly Gly Pro Ala Gly Val Ser Gln Pro Ser
 160 165 170
 ccc agg agg gga gct gat gat ccc gct gtt cct cgt gct gta tgg cat 578
 Pro Arg Arg Gly Ala Asp Asp Pro Ala Val Leu Arg Ala Val Trp His
 175 180 185
 ctt gga ctt gga ctt tct gtc agg cta cta cgt gac ctt ggc tgc cca 626
 Pro Gly Pro Gly Leu Ser Val Arg Leu Leu Arg Asp Pro Arg Cys Pro
 190 195 200 205
 gat cct gga tgt act gct gcc ccc tgt cat gct gct cat tcatg 670
 Asp Pro Gly Cys Thr Ala Ala Pro Cys His Ala Ala His
 210 215
 gcaatgttgc tcaatggcac aacacggggc gtgttgagtt ctggaaccag atgaagctcc 730
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 aaaaatgttt ttggagttta agaggcaagt cattcttcca aattctctggg ctccagcgctt 970
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 gactgtgaga gggagtgcgt gtgttgacac atgttgatca ggcacaggaa gggcacaggg 1270
 gctgagcaat acagaagtoa catgggttct cagggtatgc caggggcaga aacagtaccg 1330
 gctctctgtc actcacttg agagttagag agacctgtt ctgctctggg ctgtgaaggg 1390
 gtggagcagg cagtggcag ctctgcctt cctgtgtct ctgtttctag ctccatggtt 1450
 ggcttggtgg gggtgagtt ccttccaaaa caccagacca cacagtctc caaaaataaa 1510
 cattttatat ag 1522

<210> 59

<211> 1591

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (44)...(1426)

<400> 59

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 Met Phe Thr Ile

1

aag ctc ctt ctt ttt att gtt cct cta gtt att tcc tcc aga att gat	103
Lys Leu Leu Leu Phe Ile Val Pro Leu Val Ile Ser Ser Arg Ile Asp	
5 10 15 20	
caa gac aat tca tca ttt gat tct cta tct cca gag cca aaa tca aga	151
Gln Asp Asn Ser Ser Phe Asp Ser Leu Ser Pro Glu Pro Lys Ser Arg	
25 30 35	
ttt gct atg tta gac gat gta aaa att tta gcc aat ggc ctc ctt cag	199
Phe Ala Met Leu Asp Asp Val Lys Ile Leu Ala Asn Gly Leu Leu Gln	
40 45 50	
ttg gga cat ggt ctt aaa gac ttt gtc cat aag acg aag ggc caa att	247
Leu Gly His Gly Leu Lys Asp Phe Val His Lys Thr Lys Gly Gln Ile	
55 60 65	
aat gac ata ttt caa aaa ctc aac ata ttt gat cag tct ttt tat gat	295
Asn Asp Ile Phe Gln Lys Leu Asn Ile Phe Asp Gln Ser Phe Tyr Asp	
70 75 80	
cta tgg ctg caa acc agt gaa atc aaa gaa gaa gaa aag gaa ctg aga	343
Leu Ser Leu Gln Thr Ser Glu Ile Lys Glu Glu Glu Lys Glu Leu Arg	
85 90 95 100	
aga act aca tat aaa cta caa gtc aaa aat gaa gag gta aag aat atg	391
Arg Thr Thr Tyr Lys Leu Gln Val Lys Asn Glu Glu Val Lys Asn Met	
105 110 115	
tca ctt gaa ctc aac tca aaa ctt gaa agc ctc cta gaa gaa aaa att	439
Ser Leu Glu Leu Asn Ser Lys Leu Glu Ser Leu Leu Glu Glu Lys Ile	
120 125 130	
cta ctc caa caa aaa gtg aaa tat tta gaa gag caa cta act aac tta	487
Leu Leu Gln Gln Lys Val Lys Tyr Leu Glu Glu Gln Leu Thr Asn Leu	
135 140 145	
att caa aat caa cct gaa aat cca gaa cac cca gaa gta act tca ctt	535
Ile Gln Asn Gln Pro Glu Thr Pro Glu His Pro Glu Val Thr Ser Leu	
150 155 160	
aaa act ttt gta gaa aaa caa gat aat agc atc aaa gaa ctt ctc cag	583
Lys Thr Phe Val Glu Lys Gln Asp Asn Ser Ile Lys Asp Leu Leu Gln	
165 170 175 180	
acc gtg gaa gac caa tat aaa caa tta aac caa cag cat agt caa ata	631
Thr Val Glu Asp Gln Tyr Lys Gln Leu Asn Gln Gln His Ser Gln Ile	
185 190 195	
aaa gaa ata gaa aat cag ctc aga agg act agt att caa gaa ccc aca	679
Lys Glu Ile Glu Asn Gln Leu Arg Arg Thr Ser Ile Gln Glu Pro Thr	
200 205 210	
gaa att tct cta tct tcc aag cca aga gca cca aga act act ccc ttt	727
Glu Ile Ser Leu Ser Ser Lys Pro Arg Ala Pro Arg Thr Thr Pro Phe	
215 220 225	
ctt cag ttg aat gaa ata aga aat gta aaa cat gat ggc att cct gct	775
Leu Gln Leu Asn Glu Ile Arg Asn Val Lys His Asp Gly Ile Pro Ala	
230 235 240	
gaa tgt acc acc att tat aac aga ggt gaa cat aca agt ggc atg tat	823
Glu Cys Thr Thr Ile Tyr Asn Arg Gly Glu His Thr Ser Gly Met Tyr	
245 250 255 260	
gcc atc aga ccc agc aac cct caa gtt ttt cat gtc tac tgt gat gtt	871
Ala Ile Arg Pro Ser Asn Ser Gln Val Phe His Val Tyr Cys Asp Val	
265 270 275	
ata tca ggt agt cca tgg aca tta itt caa cat cga ata gat gga tca	919
Ile Ser Gly Ser Pro Trp Thr Leu Ile Gln His Arg Ile Asp Gly Ser	
280 285 290	
caa aac ttc aat gaa acg tgg gag aac tac aaa tat ggt ttt ggg agg	967
Gln Asn Phe Asn Glu Thr Trp Glu Asn Tyr Lys Tyr Gly Phe Gly Arg	
295 300 305	
ctt gat gga gaa ttt tgg ttg ggc cta gag aag ata tac tcc ata gtg	1015
Leu Asp Gly Glu Phe Trp Leu Gly Leu Glu Lys Ile Tyr Ser Ile Val	
310 315 320	

aag caa tot aat tat gtt cta cga att gag ctg gaa gac tgg aaa gac 1063
 Lys Gln Ser Asn Tyr Val Leu Arg Ile Glu Leu Glu Asp Trp Lys Asp
 325 330 335 340
 aac aaa cat tat att gaa tat tot ttt tac ttg gga aat cac gaa acc 1111
 Asn Lys His Tyr Ile Glu Tyr Ser Phe Tyr Leu Gly Asn His Glu Thr
 345 350 355
 aac tat aag cta cat cta gtt gag att act ggc aat gtc ccc aat gca 1159
 Asn Tyr Thr Leu His Leu Val Ala Ile Thr Gly Asn Val Pro Asn Ala
 360 365 370
 atc cag gaa aac aaa gat ttg gtg ttt tot act tgg gat cac aaa gca 1207
 Ile Pro Gln Asn Lys Asp Leu Val Phe Ser Thr Trp Asp His Lys Ala
 375 380 385
 aaa gga cac ttc aac tgt cca gag ggt tat tca gga ggc tgg tgg tgg 1255
 Lys Gly His Phe Asn Cys Pro Glu Gly Tyr Ser Gly Gly Trp Trp Trp
 390 395 400
 cat cat gag tgt gga gaa aac aac cta aat ggt aaa tat aac aaa cca 1303
 His Asp Glu Cys Gly Glu Asn Asn Leu Asn Gly Lys Tyr Asn Lys Pro
 405 410 415 420
 aga gca aaa tot aag cta gag agg aga aga gga tta tot tgg aag tot 1351
 Arg Ala Lys Ser Lys Pro Glu Arg Arg Gly Leu Ser Trp Lys Ser
 425 430 435
 caa aat gga agg tta tta tot ata aaa tca acc aaa atg ttg atc cat 1399
 Gln Asn Gly Arg Leu Tyr Ser Ile Lys Ser Thr Lys Met Leu Ile His
 440 445 450
 cca aca gat tca gaa aac ttt gaa tgaactgagg caaatttaaa aggcgat 1450
 Pro Thr Asp Ser Glu Ser Phe Glu
 455 460
 aatttaaca ttaacctat tccaggttaa tatgggtctaa taatcgggta tttaattctt 1510
 aagagaaagt ttgagaaata gattttttt tatcttaaaag tcaatgtcta tttaagitta 1570
 aacatacaat cacataacct t 1591

<110> 60

<211> 1249

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (134)...(784)

<400> 60

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 ctccacctgg agcatgggt aacacgggag gaaaggaaaa gacagagtea gacagggagc 120
 ctggggagggg gcc atg gtr cca atg cac tta ctg ggg aga ctg gag aag 169
 Met Val Pro Met His Leu Leu Gly Arg Leu Glu Lys
 1 5 10
 cag ctg ctc ctc ctg ttc ttc gcc tcc ttc cta ctg agg ctg gct tgg 217
 Pro Leu Leu Leu Leu Cys Cys Ala Ser Phe Leu Leu Gly Leu Ala Leu
 15 20 25
 ctg ggc ata aag cag gac atc acc ccc gtt gct tat ttc ttt ctc aca 265
 Leu Gly Ile Lys Thr Asp Ile Thr Pro Val Ala Tyr Phe Phe Leu Thr
 30 35 40
 ttg agt ggg ttc ttc ttg ttt gcc tat ctc ctg gtc agg ttt ctg gaa 313
 Leu Gly Gly Phe Phe Leu Phe Ala Tyr Leu Leu Val Arg Phe Leu Glu
 45 50 55 60
 tgg ggg ctc cgg tcc cag ctc caa tca atg cag act gag agc cca ggg 361
 Trp Gly Leu Arg Ser Gln Leu Gln Ser Met Gln Thr Glu Ser Pro Gly
 65 70 75
 cca tca ggc aat gca cgg gac aat gaa gcc ttt gaa ctg cca gtc tat 409
 Pro Ser Gly Asn Ala Arg Asp Asn Glu Ala Phe Glu Val Pro Val Tyr
 80 85 90

gaa gag gcc gtg gtg gga cca gaa tcc cag tgc cgc ccc caa gag ttg	457
Glu Glu Ala Val Val Gly Leu Glu Ser Gln Cys Arg Pro Gln Glu Leu	
93 100 105	
gac caa cca ccc ccc taa agc act gtt gtg ata ccc cca gca cct gag	505
Asp Gln Pro Pro Pro Tyr Ser Thr Val Val Ile Pro Pro Ala Pro Glu	
110 115 120	
gag gaa caa cct agc cat cca gag ggg tcc agg aga gcc aaa ctg gaa	553
Glu Glu Gln Pro Ser His Pro Glu Gly Ser Arg Arg Ala Lys Leu Glu	
125 130 135 140	
cag agg cga atg gcc tca gag ggg tcc atg gcc cag gaa gga agc cct	601
Gln Arg Arg Met Ala Ser Glu Gly Ser Met Ala Gln Glu Gly Ser Pro	
145 150 155	
gga aga gct cca atc aac ctt cgg ctt cgg gga cca cgg gct gtg tcc	649
Gly Arg Ala Pro Ile Asn Leu Arg Leu Arg Gly Pro Arg Ala Val Ser	
160 165 170	
act gct cca gat ctg cag agc ttg ggc cca gtc ccc aca tta gag cct	697
Thr Ala Pro Asp Leu Gln Ser Leu Ala Ala Val Pro Thr Leu Glu Pro	
175 180 185	
ctg act cca ccc cct gcc cat gat gtc tgc ctt ggt cag cct gat gat	745
Leu Thr Pro Pro Pro Ala Tyr Asp Val Cys Phe Gly His Pro Asp Asp	
190 195 200	
gat agt gtt ttt tat gag gac aac tgg gca ccc cct taaatgact	790
Asp Ser Val Phe Tyr Glu Asp Asn Trp Ala Pro Pro	
205 210 215	
atccaaagat tttctctctc tccacaccag aactegttca tttagactaac atttttcagc	850
gactactatg ttgcagaaac aagtgtttct qactggacat cataaatggg gaatttgacc	910
tcagagagag tcaggccatcg ttaagccctt cccagctgag atctgggttg cataatitga	970
ttttctggg aacatttctt gactatccc atatccaat tttccagcgt tagatttgagg	1030
ttgagttagg gacttgatcc agagaaggcg gagaagggaag aactaacctc ttagtggcgg	1090
ctatgcttc tgttccaggc gctgttccag ctgttagaac ccttaggctt gacagctttg	1150
tgagttatca ttgaaaatg aggatcccaa gactcagagg agtttgataa tgcacagag	1210
ggaacactgc tagtaantaa cattaataata attggaatg	1249

<210> 61

<211> 392

<212> PRT

<213> Homo sapiens

<400> 61

Met Glu Gly Val Ser Ala Leu Leu Ala Arg Cys Pro Thr Ala Gly Leu	
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Ala Gly Gly Leu Gly Val Thr Ala Cys Ala Ala Ala Gly Val Leu Leu	
20 25 30	
Tyr Arg Ile Ala Arg Arg Met Lys Pro Thr His Thr Met Val Asn Cys	
35 40 45	
Trp Phe Cys Asn Gln Asp Thr Leu Val Pro Tyr Gly Asn Arg Asn Cys	
50 55 60	
Trp Asp Cys Pro His Cys Glu Gln Tyr Asn Gly Phe Gln Glu Asn Gly	
65 70 75 80	
Asp Tyr Asn Lys Pro Ile Pro Ala Gln Tyr Leu Glu His Leu Asn His	
85 90 95	
Val Val Ser Ser Ala Pro Ser Leu Arg Asp Pro Ser Gln Pro Gln Gln	
100 105 110	
Trp Val Ser Ser Gln Val Leu Leu Cys Lys Arg Cys Asn His His Gln	
115 120 125	
Thr Thr Lys Ile Lys Gln Leu Ala Ala Phe Ala Pro Arg Glu Glu Gly	
130 135 140	
Arg Tyr Asp Glu Glu Val Glu Val Tyr Arg His His Leu Glu Gln Met	
145 150 155 160	
Tyr Lys Leu Cys Arg Pro Cys Gln Ala Ala Val Glu Tyr Tyr Ile Lys	
165 170 175	

His Gln Asn Arg Gln Leu Arg Ala Leu Leu Leu Ser His Gln Phe Lys
 180 185 190
 Arg Arg Glu Ala Asp Gln Thr His Ala Gln Asn Phe Ser Ser Ala Val
 195 200 205
 Lys Ser Pro Val Gln Val Ile Leu Leu Arg Ala Leu Ala Phe Leu Ala
 210 215 220
 Cys Ala Phe Leu Leu Thr Thr Ala Leu Tyr Gly Ala Ser Gly His Phe
 225 230 235 240
 Ala Pro Gly Thr Thr Val Pro Leu Ala Leu Pro Pro Gly Gly Asn Gly
 245 250 255
 Ser Ala Thr Pro Asp Asn Gly Thr Thr Pro Gly Ala Glu Gly Trp Arg
 260 265 270
 Gln Leu Leu Gly Leu Leu Pro Glu His Met Ala Glu Lys Leu Cys Gln
 275 280 285
 Ala Trp Ala Phe Gly Gln Ser His Gln Thr Gly Val Val Ala Leu Gly
 290 295 300
 Leu Leu Thr Cys Leu Leu Ala Met Leu Leu Ala Gly Arg Ile Arg Leu
 305 310 315 320
 Arg Arg Ile Asp Ala Phe Cys Thr Cys Leu Trp Ala Leu Leu Leu Gly
 325 330 335
 Leu His Leu Ala Glu Gln His Leu Gln Ala Ala Ser Pro Ser Trp Leu
 340 345 350
 Asp Thr Leu Lys Phe Ser Thr Thr Ser Leu Cys Cys Leu Val Gly Phe
 355 360 365
 Thr Ala Ala Val Ala Thr Arg Lys Ala Thr Gly Pro Arg Arg Phe Arg
 370 375 380
 Pro Arg Arg Ser Glu Lys Gln Pro
 385 390

<R10> 62
 <R11> 197
 <R12> PRT
 <R13> Homo sapiens

<R00> 62
 Met Ala Leu Trp Arg Gly Ser Ala Tyr Ala Gly Phe Leu Ala Leu Ala
 1 5 10 15
 Val Gly Cys Val Phe Leu Leu Glu Pro Glu Leu Pro Gly Ser Ala Leu
 20 25 30
 Arg Ser Leu Trp Ser Ser Leu Cys Leu Gly Pro Ala Pro Ala Pro Pro
 35 40 45
 Gly Pro Val Ser Pro Glu Gly Arg Leu Ala Ala Ala Trp Asp Ala Leu
 50 55 60
 Ile Val Arg Pro Val Arg Arg Trp Arg Arg Val Ala Val Gly Val Asn
 65 70 75 80
 Ala Cys Val Asp Val Val Leu Ser Gly Val Lys Leu Leu Gln Ala Leu
 85 90 95
 Gly Leu Ser Pro Gly Asn Gly Lys Asp His Ser Ile Leu His Ser Arg
 100 105 110
 Asn Asp Leu Glu Glu Ala Phe Ile His Phe Met Trp Lys Gly Ala Ala
 115 120 125
 Ala Glu Arg Phe Phe Ser Asp Lys Glu Thr Phe His Asp Ile Ala Gln
 130 135 140
 Val Ala Ser Gln Phe Pro Gly Ala Gln His Tyr Val Gly Gly Asn Ala
 145 150 155 160
 Ala Leu Ile Gly Gln Lys Phe Ala Ala Asn Ser Asp Leu Lys Val Leu
 165 170 175
 Leu Cys Gly Pro Val Gly Pro Arg Leu His Glu Leu Leu Asp Asp Asn
 180 185 190
 Val Phe Val Pro Pro Glu Ser Leu Gln Gln Val Asp Glu Phe His Leu
 195 200 205

Ile Leu Glu Tyr Gln Ala Gly Glu Glu Trp Gly Gln Leu Lys Ala Pro
 210 215 220
 His Ala Asn Arg Phe Ile Phe Ser His Asp Leu Ser Asn Gly Ala Met
 225 230 235 240
 Asn Met Leu Glu Val Phe Val Ser Ser Leu Glu Glu Phe Gln Pro Asp
 245 250 255
 Leu Val Val Leu Ser Gly Leu His Met Met Glu Gly Gln Ser Lys Glu
 260 265 270
 Leu Gln Arg Lys Arg Leu Leu Glu Val Val Thr Ser Ile Ser Asp Ile
 275 280 285
 Pro Thr Gly Ile Pro Val His Leu Glu Leu Ala Ser Met Thr Asn Arg
 290 295 300
 Glu Leu Met Ser Ser Ile Val His Gln Gln Val Phe Pro Ala Val Thr
 305 310 315 320
 Ser Leu Gly Leu Asn Glu Gln Glu Leu Leu Phe Leu Thr Gln Ser Ala
 325 330 335
 Ser Gly Pro His Ser Ser Leu Ser Ser Trp Asn Gly Val Pro Asp Val
 340 345 350
 Gly Met Val Ser Asp Ile Leu Phe Trp Ile Leu Lys Glu His Gly Arg
 355 360 365
 Ser Lys Ser Arg Ala Ser Asp Leu Thr Arg Ile His Phe His Thr Leu
 370 375 380
 Val Tyr His Ile Leu Ala Thr Val Asp Gly His Trp Ala Asn Gln Leu
 385 390 395 400
 Ala Ala Val Ala Ala Gly Ala Arg Val Ala Gly Thr Gln Ala Cys Ala
 405 410 415
 Thr Glu Thr Ile Asp Thr Ser Arg Val Ser Leu Arg Ala Pro Gln Glu
 420 425 430
 Phe Met Thr Ser His Ser Glu Ala Gly Ser Arg Ile Val Leu Asn Pro
 435 440 445
 Asn Lys Pro Val Val Glu Trp His Arg Glu Gly Ile Ser Phe His Phe
 450 455 460
 Thr Pro Val Leu Val Cys Lys Asp Pro Ile Arg Thr Val Gly Leu Gly
 465 470 475 480
 Asp Ala Ile Ser Ala Glu Gly Leu Phe Tyr Ser Glu Val His Pro His
 485 490 495
 Tyr

0210> 63
 0211> 417
 0212> PRT
 0213> Homo sapiens

0300> 63
 Met Leu Val His Leu Phe Arg Val Gly Ile Arg Gly Gly Pro Phe Pro
 1 5 10 15
 Gly Arg Leu Leu Pro Pro Leu Arg Phe Gln Thr Phe Ser Ala Val Arg
 20 25 30
 Tyr Ser Asp Gly Tyr Arg Ser Ser Ser Leu Leu Arg Ala Val Ala His
 35 40 45
 Leu Arg Ser Gln Leu Trp Ala His Leu Pro Arg Ala Pro Leu Ala Pro
 50 55 60
 Arg Trp Ser Pro Ser Ala Trp Cys Trp Val Gly Ala Leu Leu Gly
 65 70 75 80
 Pro Met Val Leu Ser Lys His Pro His Leu Cys Leu Val Ala Leu Cys
 85 90 95
 Glu Ala Glu Glu Ala Pro Pro Ala Ser Ser Thr Pro His Val Val Gly
 100 105 110
 Ser Arg Phe Asn Trp Lys Leu Phe Trp Gln Phe Leu His Pro His Leu
 115 120 125
 Leu Val Leu Gly Val Ala Val Val Leu Ala Leu Gly Ala Ala Leu Val

130	135	140
Asn Val Gln Ile Pro Leu Leu Gly Gln Leu Val Glu Val Val Ala		
145	150	155
Lys Tyr Thr Arg Asp His Val Gly Ser Phe Met Thr Glu Ser Gln Asn		
160	165	170
Leu Ser Thr His Leu Leu Ile Leu Tyr Gly Val Gln Gly Leu Leu Thr		
175	180	185
Phe Gly Tyr Leu Val Leu Leu Ser His Val Gly Gln Arg Met Ala Val		
190	195	200
Asp Met Arg Arg Ala Leu Phe Ser Ser Leu Leu Arg Tyr Cys Gln Pro		
205	210	215
Gln Gly Ala Gln Leu Gly Gln Asp Ile Thr Phe Phe Asp Ala Asn Lys		
220	225	230
Thr Gly Gln Leu Val Ser Arg Leu Thr Thr Asp Val Gln Gln Phe Lys		
235	240	245
Ser Ser Phe Lys Leu Val Ile Ser Gln Gly Leu Arg Ser Cys Thr Gln		
250	255	260
Val Ala Gly Cys Leu Val Ser Leu Ser Met Leu Ser Thr Arg Leu Thr		
265	270	275
Leu Leu Leu Met Val Ala Thr Pro Ala Leu Met Gly Val Gly Thr Leu		
280	285	290
Met Gly Ser Gly Leu Arg Lys Leu Ser Cys Gln Cys Gln Gln Gln Ile		
295	300	305
Ala Arg Ala Met Gly Val Ala Asp Gln Ala Leu Gly Asn Val Arg Thr		
310	315	320
Val Arg Ala Phe Ala Met Gln Gln Arg Gln Gln Gln Arg Tyr Gly Ala		
325	330	335
Gln Leu Gln Ala Cys Arg Cys Arg Ala Gln Gln Leu Gly Arg Gly Ile		
340	345	350
Ala Leu Phe Gln Gly Ser Ser Asn Ile Ala Phe Asn Cys Met Val Leu		
355	360	365
Gly Thr Leu Phe Ile Gly Gly Ser Leu Val Ala Gly Gln Gln Leu Thr		
370	375	380
Gly Gly Asp Leu Met Ser Phe Leu Val Ala Ser Gln Thr Val Gln Asp		
385	390	395
Leu		

110 - 64
 111 - 64
 112 - PRT
 113 - Homo sapiens

100 - 64
Met Ile Pro Arg Gln His Asn Ala Gly Ala Gly Ser His Gln Pro Ala
1
Val Phe Arg Met Ala Val Leu Asp Thr Asp Leu Asp His Ile Leu Pro
10
Ser Ser Val Leu Pro Pro Phe Trp Ala Lys Leu Val Val Gly Ser Val
20
Ala Ile Val Cys Phe Ala Arg Ser Tyr Asp Gly Asp Phe Val Phe Asp
30
Asp Ser Gln Ala Ile Val Asn Asn Lys Val Ala Gly Val Val Gly Arg
40
Ala Asp Leu Leu Cys Ala Leu Phe Phe Leu Ser Phe Leu Gly Tyr
50
Cys Lys Ala Phe Arg Glu Ser Asn Lys Gln Gly Ala His Ser Ser Thr
60
Phe Trp Val Leu Leu Ser Ile Phe Leu Gly Ala Val Ala Met Leu Cys
70
Lys Gln Gln Gly Ile Thr Val Leu Gly Leu Asn Ala Val Phe Asp Ile
80
130
135
140

Leu Val Ile Gly Lys Phe Asn Val Leu Glu Ile Val Gln Lys Val Leu
 145 150 155 160
 His Lys Asp Lys Ser Leu Glu Asn Leu Gly Met Leu Arg Asn Gly Gly
 165 170 175
 Leu Leu Phe Arg Met Thr Leu Leu Thr Ser Gly Gly Ala Gly Met Leu
 180 185 190
 Tyr Val Arg Trp Arg Ile Met Gly Thr Gly Pro Pro Ala Phe Thr Gln
 195 200 205
 Val Asp Asn Pro Ala Ser Phe Ala Asp Ser Met Leu Val Arg Ala Val
 210 215 220
 Asn Tyr Asn Tyr Tyr Tyr Ser Leu Asn Ala Trp Leu Leu Leu Cys Pro
 225 230 235 240
 Trp Trp Leu Cys Phe Asp Trp Ser Met Gly Cys Ile Pro Leu Ile Lys
 245 250 255
 Ser Ile Ser Asp Trp Arg Val Ile Ala Leu Ala Ala Leu Trp Phe Cys
 260 265 270
 Leu Ile Gly Leu Ile Cys Gln Ala Leu Cys Ser Gln Asp Gly His Lys
 275 280 285
 Arg Arg Ile Leu Thr Leu Gly Leu Gly Phe Leu Val Ile Pro Phe Leu
 290 295 300
 Pro Ala Ser Asn Leu Phe Phe Arg Val Gly Phe Val Val Ala Glu Arg
 305 310 315 320
 Val Leu Tyr Leu Pro Ser Ile Gly Tyr Cys Val Leu Leu Thr Phe Gly
 325 330 335
 Phe Gly Ala Leu Ser Lys His Thr Lys Lys Lys Lys Leu Ile Ala Ala
 340 345 350
 Val Val Leu Gly Ile Leu Phe Ile Asn Thr Leu Arg Cys Val Leu Arg
 355 360 365
 Ser Gly Glu Trp Arg Ser Gln Glu Gln Leu Phe Arg Ser Ala Leu Ser
 370 375 380
 Val Cys Pro Leu Asn Ala Lys Val His Tyr Asn Ile Gly Lys Asn Leu
 385 390 395 400
 Ala Asp Lys Gly Asn Gln Thr Ala Ala Ile Arg Tyr Tyr Arg Glu Ala
 405 410 415
 Val Arg Leu Asn Pro Lys Tyr Val His Ala Met Asn Asn Leu Gly Asn
 420 425 430
 Ile Leu Lys Gln Arg Asn Gln Leu Gln Gln Ala Gln Glu Leu Leu Ser
 435 440 445
 Leu Ala Val Gln Ile Gln Pro Asp Phe Ala Ala Ala Trp Met Asn Leu
 450 455 460
 Gly Ile Val Gln Asn Ser Leu Lys Arg Phe Glu Ala Ala Glu Gln Ser
 465 470 475 480
 Tyr Arg Thr Ala Ile Lys His Arg Arg Lys Tyr Pro Asp Cys Tyr Tyr
 485 490 495
 Asn Leu Gly Arg Leu Tyr Ala Asp Leu Asn Arg His Val Asp Ala Leu
 500 505 510
 Asn Ala Trp Arg Asn Ala Thr Val Leu Lys Pro Gln His Ser Leu Ala
 515 520 525
 Trp Asn Asn Met Ile Ile Leu Leu Asp Asn Thr Gly Asn Leu Ala Gln
 530 535 540
 Ala Glu Ala Val Gly Arg Gln Ala Leu Glu Leu Ile Pro Asn Asp His
 545 550 555 560
 Ser Leu Met Phe Ser Leu Ala Asn Val Leu Gly Lys Ser Gln Lys Tyr
 565 570 575
 Lys Glu Ser Gln Ala Leu Phe Leu Lys Ala Ile Lys Ala Asn Pro Asn
 580 585 590
 Ala Ala Ser Tyr His Gly Asn Leu Ala Val Leu Tyr His Arg Trp Gly
 595 600 605
 His Leu Asp Leu Ala Lys Lys His Tyr Glu Ile Ser Leu Gln Leu Asp
 610 615 620
 Pro Thr Ala Ser Gly Thr Lys Glu Asn Tyr Gly Leu Leu Arg Arg Lys

625
Leu Glu Leu Met Gln Lys Lys Ala Val
645

635 640

<210> 65
<211> 93
<212> PRT
<213> Homo sapiens

1400: 65
Met Ile His Leu Gly His Ile Leu Phe Leu Leu Leu Leu Pro Val Ala
1 5 10 15
Ala Ala Gln Thr Thr Pro Gly Glu Arg Ser Ser Leu Pro Ala Phe Tyr
20 25 30
Pro Gly Thr Ser Gly Ser Cys Ser Gly Cys Gly Ser Leu Ser Leu Pro
35 40 45
Leu Leu Ala Gly Leu Val Ala Ala Asp Ala Val Ala Ser Leu Leu Ile
50 55 60
Val Gly Ala Val Phe Leu Cys Ala Arg Pro Arg Arg Ser Pro Ala Gln
65 70 75 80
Glu Asp Gly Lys Val Tyr Ile Asn Met Pro Gly Arg Gly
85 90

<210> 66
<211> 425
<212> PRT
<213> Homo sapiens

1400: 66
Met Gly Ser Trp Ala Ala Val Asn Gly Ile Trp Val Glu Leu Pro Val
1 5 10 15
Val Val Lys Gln Leu Pro Gln Gly Trp Ser Leu Pro Ser Tyr Val Ser
20 25 30
Val Leu Val Ala Leu Gly Asn Leu Gly Leu Leu Val Val Thr Leu Trp
35 40 45
Arg Arg Leu Ala Pro Gly Lys Asp Gln Gln Val Pro Ile Arg Val Val
50 55 60
Gln Val Leu Gly Met Val Gly Thr Ala Leu Leu Ala Ser Leu Trp His
65 70 75 80
His Val Ala Pro Val Ala Gly Gln Leu His Ser Val Ala Phe Leu Ala
85 90 95
Leu Ala Phe Val Leu Ala Leu Ala Cys Cys Ala Ser Asn Val Thr Phe
100 105 110
Leu Pro Phe Leu Ser His Leu Pro Pro Arg Phe Leu Arg Ser Phe Phe
115 120 125
Leu Gly Gln Gly Leu Ser Ala Leu Leu Pro Cys Val Leu Ala Leu Val
130 135 140
Gln Gly Val Gly Arg Leu Gln Cys Pro Pro Ala Pro Ile Asn Gly Thr
145 150 155 160
Pro Gly Pro Pro Leu Asp Phe Leu Gln Arg Phe Pro Ala Ser Thr Phe
165 170 175
Phe Trp Ala Leu Thr Ala Leu Leu Val Ala Ser Ala Ala Ala Phe Gln
180 185 190
Gly Leu Leu Leu Leu Leu Pro Pro Pro Ser Val Pro Thr Gly Glu
195 200 205
Leu Gly Ser Gly Leu Gln Val Gly Ala Pro Gly Ala Glu Glu Glu Val
210 215 220
Glu Glu Ser Ser Pro Leu Gln Glu Pro Pro Ser Gln Ala Ala Gly Thr
225 230 235 240
Thr Pro Gly Pro Asp Pro Lys Ala Tyr Gln Leu Leu Ser Ala Arg Ser
245 250 255

Ala Cys Leu Leu Gly Leu Leu Ala Ala Thr Asn Ala Leu Thr Asn Gly
 260 265 270
 Val Leu Pro Ala Val Gln Ser Phe Ser Cys Leu Pro Tyr Gly Arg Leu
 275 280 285
 Ala Tyr His Leu Ala Val Val Leu Gly Ser Ala Ala Asn Pro Leu Ala
 290 295 300
 Cys Phe Leu Ala Met Gly Val Leu Cys Arg Ser Leu Ala Gly Leu Gly
 305 310 315 320
 Gly Leu Ser Leu Leu Gly Val Phe Cys Gly Gly Tyr Leu Met Ala Leu
 325 330 335
 Ala Val Leu Ser Pro Cys Pro Pro Leu Val Gly Thr Ser Ala Gly Val
 340 345 350
 Val Leu Val Val Leu Ser Trp Val Leu Cys Leu Gly Val Phe Ser Tyr
 355 360 365
 Val Lys Val Ala Ala Ser Ser Leu Leu His Gly Gly Gly Arg Pro Ala
 370 375 380
 Leu Leu Ala Ala Gly Val Ala Ile Gln Val Gly Ser Leu Leu Gly Ala
 385 390 395 400
 Val Ala Met Phe Pro Pro Thr Ser Ile Tyr His Val Phe His Ser Arg
 405 410 415
 Lys Asp Cys Ala Asp Pro Cys Asp Ser
 420 425

<10> 67
 <11> 149
 <12> PRT
 <13> Homo sapiens

<100> 67
 Met Glu Thr Leu Tyr Arg Val Pro Phe Leu Val Leu Glu Cys Pro Asn
 1 5 10 15
 Leu Lys Leu Lys Lys Pro Pro Trp Leu His Met Pro Ser Ala Met Thr
 20 25 30
 Val Tyr Ala Leu Val Val Val Ser Tyr Phe Leu Ile Thr Gly Gly Ile
 35 40 45
 Leu Tyr Asp Val Ile Val Glu Pro Pro Ser Val Gly Ser Met Thr Asp
 50 55 60
 Glu His Gly His Gln Arg Pro Val Ala Phe Leu Ala Tyr Arg Val Asn
 65 70 75 80
 Gly Gln Tyr Ile Met Glu Gly Leu Ala Ser Ser Phe Leu Phe Thr Met
 85 90 95
 Gly Gly Leu Gly Phe Ile Ile Leu Asp Arg Ser Asn Ala Pro Asn Ile
 100 105 110
 Pro Lys Leu Asn Arg Phe Leu Leu Phe Ile Gly Phe Val Cys Val
 115 120 125
 Leu Leu Ser Phe Phe Met Ala Arg Val Phe Met Arg Met Lys Leu Pro
 130 135 140
 Gly Tyr Leu Met Gly
 145

<10> 68
 <11> 396
 <12> PRT
 <13> Homo sapiens

<100> 68
 Met Ala Met Ile Glu Leu Gly Phe Gly Arg Gln Asn Phe His Pro Leu
 1 5 10 15
 Lys Arg Lys Ser Ser Leu Leu Leu Lys Leu Ile Ala Val Val Phe Ala
 20 25 30
 Val Leu Leu Phe Cys Glu Phe Leu Ile Tyr Tyr Leu Ala Ile Phe Gln

35	40	45
Cys Asn Trp Pro Glu Val Lys Thr Thr Ala Ser Asp Gly Glu Gln Thr		
50	55	60
Thr Arg Glu Pro Val Leu Lys Ala Met Phe Leu Ala Asp Thr His Leu		
65	70	75
Leu Gly Glu Phe Leu Gly His Trp Leu Asp Lys Leu Arg Arg Glu Trp		
85	90	95
Gln Met Glu Arg Ala Phe Gln Thr Ala Leu Trp Leu Leu Gln Pro Glu		
100	105	110
Val Val Phe Ile Leu Gly Asp Ile Phe Asp Gln Gly Lys Trp Ser Thr		
115	120	125
Pro Gln Ala Trp Ala Asp Asp Val Gln Arg Phe Gln Lys Met Phe Arg		
130	135	140
His Pro Ser His Val Gln Leu Lys Val Val Ala Gly Asn His Asp Ile		
145	150	155
Gly Phe His Tyr His Met Asn Thr Tyr Lys Val Gln Arg Phe Glu Lys		
165	170	175
Val Phe Ser Ser Gln Arg Leu Phe Ser Trp Lys Glu Ile Asn Phe Val		
180	185	190
Met Val Asn Ser Val Ala Leu Asn Gly Asp Gly Cys Gly Ile Cys Ser		
195	200	205
Glu Thr Glu Ala His Leu Ile Glu Val Ser His Arg Leu Asn Cys Ser		
210	215	220
Arg Gln Ala Arg Gly Ser Ser Arg Cys Gly Pro Gly Pro Leu Leu Pro		
225	230	235
Thr Ser Ala Ser Val Leu Leu Gln His Tyr Pro Leu Tyr Arg Arg Ser		
245	250	255
Asp Ala Asn Cys Ser Gly Glu Asp Ala Ala Pro Ala Gln Glu Arg Asp		
260	265	270
Ile Pro Phe Lys Glu Asn Tyr Asp Val Leu Ser Arg Ser Ala Ser Gln		
275	280	285
Lys Leu Leu Trp Trp Leu Gln Pro Arg Leu Val Leu Ser Gly His Thr		
290	295	300
His Ser Ala Cys Glu Val His His Gly Gly Arg Val Pro Gln Leu Ser		
305	310	315
Val Pro Ser Phe Ser Trp Arg Asn Arg Asn Pro Ser Phe Ile Met		
325	330	335
Gly Ser Ile Thr Pro Thr Asp Tyr Thr Leu Ser Lys Cys Tyr Leu Pro		
340	345	350
Arg Glu Asp Val Val Leu Ile His Tyr Cys Gly Val Val Gly Phe Leu		
355	360	365
Val Val Leu Thr Leu Thr His Phe Gly Leu Leu Ala Ser Pro Phe Leu		
370	375	380
Ser Gly Leu Asn Leu Leu Gly Lys Arg Lys Thr Arg		
385	390	395

0110 - 69
 0111 - 650
 0112 - PERT
 0113 - Homo sapiens

0400 - 69
 Met Ile Arg Gln Glu Arg Ser Thr Ser Tyr Gln Gln Leu Ser Glu Glu
 1 5 10 15
 Leu Val Gln Val Val Glu Asn Ser Gln Leu Ala Asp Gln Gln Asp Lys
 20 25 30
 Glu Thr Val Arg Val Gln Gly Pro Gly Ile Leu Pro Gly Leu Arg Ser
 35 40 45
 Glu Ser Ala Ser Ser Ser Ile Arg Phe Ser Lys Ala Cys Leu Lys Asn
 50 55 60
 Val Phe Ser Val Leu Leu Ile Phe Ile Tyr Leu Leu Leu Met Ala Val

65	70	75	80
Ala Val Phe Leu Val Tyr Arg Thr Ile Thr Asp Phe Arg Glu Lys Leu			
	85	90	95
Lys His Pro Val Met Ser Val Ser Tyr Lys Glu Val Asp Arg Tyr Asp			
	100	105	110
Ala Pro Gly Ile Ala Leu Tyr Pro Gly Gln Ala Gln Leu Leu Ser Cys			
	115	120	125
Lys His Tyr Glu Val Ile Pro Pro Leu Thr Ser Pro Gly Gln Pro			
	130	135	140
Gly Asp Met Asn Cys Thr Thr Gln Arg Ile Asn Tyr Thr Asp Pro Phe			
	145	150	155
Ser Asn Gln Thr Val Lys Ser Ala Leu Ile Val Gln Gly Pro Arg Gln			
	165	170	175
Val Lys Lys Arg Glu Leu Val Phe Leu Gln Phe Arg Leu Asn Lys Ser			
	180	185	190
Ser Glu Asp Phe Ser Ala Ile Asp Tyr Leu Leu Phe Ser Ser Phe Gln			
	195	200	205
Glu Phe Leu Gln Ser Pro Asn Arg Val Gly Phe Met Gln Ala Cys Glu			
	210	215	220
Ser Ala Tyr Ser Ser Trp Lys Phe Ser Gly Gly Phe Arg Thr Trp Val			
	225	230	235
Lys Met Ser Leu Val Lys Thr Lys Glu Gln Asp Gly Arg Gln Ala Val			
	245	250	255
Glu Phe Arg Gln Glu Thr Ser Val Val Asn Tyr Ile Asp Gln Arg Pro			
	260	265	270
Ala Ala Lys Lys Ser Ala Gln Leu Phe Phe Val Val Phe Gln Trp Lys			
	275	280	285
Arg Pro Phe Ile Gln Lys Val Gln Arg Ile Val Thr Ala Asn Pro Trp			
	290	295	300
Asn Thr Ile Ala Leu Leu Cys Gly Ala Phe Leu Ala Leu Phe Lys Ala			
	305	310	315
Ala Glu Phe Ala Lys Leu Ser Ile Lys Trp Met Ile Lys Ile Arg Lys			
	325	330	335
Arg Tyr Leu Lys Arg Arg Gly Gln Ala Thr Ser His Ile Ser			
	340	345	350

<10> 70
 <11> 183
 <12> PET
 <13> Homo sapiens

1000> 70
Met Thr Ile His Ile Leu Ile Leu Leu Leu Leu Leu Ala Phe Ser Ala
1
Gln Gly Asp Leu Asp Thr Ala Ala Arg Arg Gly Gln His Gln Val Pro
10
Gln His Arg Gly His Val Cys Tyr Leu Gly Val Cys Arg Thr His Arg
35
Leu Ala Glu Ile Ile Tyr Trp Ile Arg Cys Leu His Gln Gly Ala Leu
50
Gly Glu Gly Gln Pro Arg Ala Pro Gly Pro Leu Gln Leu Trp Ala Pro
65
Pro Val Ala Arg Gly Ser Pro Ala Arg Phe Pro Gly Phe Arg Pro
80
Ala Ala Arg Gly Leu Ala Gln Cys Pro Ala Arg Trp Val Thr Ser Gly
100
Thr Ala Arg Pro Leu Leu Gly Phe Ser Leu Pro Ile Cys Met Leu Glu
115
Leu Leu Leu His Ile Ser Ser Pro Leu Thr Pro Ala Pro Glu Thr Val
130
Phe Pro Ser Pro Ser Pro Gly Cys Asp
140

145

150

<210> 71
 <211> 1176
 <212> DNA
 <213> Homo sapiens

<400> 71

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gggtcagc	cgtgcgcgc	ggcgggcgc	ttgctctac	ggatcgcgc	gaggatgaag	120
ccaaagcaca	cgatggcaca	ctgctggctc	tgcacacgc	atacgtggt	gacctatgg	180
aacccgaact	gctgggactg	cccccactgc	gagagtaga	acggcttcca	ggagaaagg	240
gactacacac	agccgacccc	cgcacagtag	ttggagcacc	tgaaccacgt	ggtgagcagc	300
gggcacagcc	tgccgcgaccc	ttgcagagcg	cagcagtggt	tgagcagcca	agtccctgct	360
tgcacagggg	gcaaccaccca	ccagaccacc	aagatcaagg	agctggccgc	cttcgctccc	420
cgcagggagg	gacggtatga	cgaaggaggt	gaggtgtacc	ggcatcact	ggagcagatg	480
tacacagctg	gcccgcgcgt	ccaaggcggt	gtggagtacc	acatcaagca	ccagaaccgc	540
cagctggcgt	ccctgttgc	cagccacagc	ttcaagcgcc	gggagggcga	ccagacccac	600
gcacagaaat	ctcctccgc	cgtgaagtag	ccggtccagg	tcctccctgt	ccgtgcccgc	660
gcctccctgg	cccgccctc	ccctatgacc	acccgctgt	atggggccag	cggaacattc	720
gcccraggca	ccactgtgc	ccctggccctg	ccactgtgtg	gcacatgggc	agccacaccc	780
gacacatggc	ccacccctgg	ggcggagggc	tggggcagc	tgttggggct	actccccgag	840
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gagcagcacc	tgagggccgc	ctgccttagc	tgggtagaca	cgctccaggt	cagcaccaca	1080
tctttgtgt	gactgggttg	cttccaggcg	gtgtgggcca	caagggaagg	acggggaccc	1140
cggaggttcc	ggccccgaag	gtcagagag	caagcc			1176

<210> 72
 <211> 1191
 <212> DNA
 <213> Homo sapiens

<400> 72

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ttcctgctgg	agccagagct	gccaggctcg	gggtccgct	ctcctggag	ctcgtgtgt	120
ctggggcccg	cgcctggcgc	cccgggacc	gtctccccc	agggccggt	ggcggcagcc	180
tgggacggc	ccctctgtgg	gcaactccgg	cgtggcgcc	gggtggcagt	gggagtcaat	240
gcctgggttg	atgtgggtgt	ctcagggttg	aagctcttgc	aggaacttgg	ccccaatcc	300
gggaatggga	aagatcacag	cattctgcac	tcaagggaat	atctgggaag	agcccttcac	360
cacttcacgt	ggaagggagc	agctgtctag	cgtctctcca	gtgataagga	aaactttcac	420
gacattgccc	aggttgccgc	agaattccca	ggagccacag	actatgtagg	aggaaatgca	480
gctttaattg	gacagaaatt	tgcaggccac	tcagatttaa	aggtctctct	tcggcgctca	540
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cagggaagtg	atgattccca	ccctcattta	gagtatcaag	ccggggagga	gtggggccag	660
ttaaaagctc	cccatgcaca	ccgattccat	ttctctcagg	acctctccaa	cgggggccatg	720
aatatgtctg	aggtgtctgt	gtctagcttg	gaggagtctc	agccagacct	ggtgtctctc	780
tctggatttg	acatgatgga	gggacaaagc	aaggagctcc	agagggaag	actcttggag	840
gttgtaacct	ccattcttga	cattcccaat	ggtattccag	ttccactaga	gctggccagt	900
atgactaaca	gggagctcat	gagcagcatt	gtccatcagc	aggtctttcc	cgcgttgact	960
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gacacagccc	gagtgctctt	gagggcacc	caagagttca	tgaacttcca	ttcggaggca	1320
ggctccagga	ttgtattaaa	cccaaacaa	ccagttagtag	aatggcacag	agagggaata	1380
tcctccact	ccacacacag	attgggtgtg	aaagacccca	ttcgaactgt	aggccttggg	1440
gatgcacatt	cagccgaagg	actcttctat	tgggaagta	cacctccata	t	1491

<210> 73
 <211> 1251
 <212> DNA
 <213> Homo sapiens

<400> 73
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 tccctccctcc gggccgttggc ccaccttggcg tcccagctct yggcccacct cctcagagcc 180
 cccctagctc ccagatggag ccctcttgcg tggctctggg ttgggggagc cctgctaggg 240
 cccatggtaac tgagtaagra tcccacacct tgccttcttg ccctgtgtga ggcagaagag 300
 gcccctccctg ccagctccac accccatgtc gtgggggtctc gctttaactg gaaqctcttc 360
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 ggggcactcg tgaatgtaca gatcccccctg ctcttggggc agctggtaga ggtcgttggc 480
 aagtaacaaa gggacccagt agggagtctc atgactgagt cccagaatct cagcaccac 540
 ctgcttctcc tctatgggtg ccagggaactg ctgaaccttg ggtacctggt gctctctcc 600
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 acagggcagc tggtagagcg ctgacacact gaactgcagg agtttaactg atccttcaag 780
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 tccatgtctg cgacacgctt ccagcttctg ctgatggttg ccacacagc cctgatggga 900
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 gccatggagc aacgggaaga ggaaggttat ggggcagagg tggaaagctg ccgctgcccg 1080
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 ggggtgagac tcatgtcttc cctgttgggt tccagagacg tgcataaggct g 1260

<210> 71
 <211> 1947
 <212> DNA
 <213> Homo sapiens

<400> 71
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 gctaaagttag tagtgggata ggttgccatt gtgctttttg caccgagcta tgatggagac 180
 tttgtctctg atgactcaga agctatctgt aacaataaagg ttcttgggtt tgtcggccgt 240
 gcagacatcc tgtgtgccc ttccttcttg ttatcttccc ttggtacttg taaagcatc 300
 agagaaaagta accaggaggg aggcattctt cccaccttct ggggtgtgct gactatcttc 360
 ctgggagcag tggccatgct gtgcaaaagc caagggatca ctgtgcccgg tttaaatgg 420
 gtacttgaca tcttggtgat agcaaatct aatgtcttgg aaattgtcca gaaggtacta 480
 cataaaggca agtcattaga gaactctggc atgctcagga accggggcct cctcttcaga 540
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 gtgagggcg taaactacaa ttactactat ccattgaatg cctggctgct gctgtgtccc 720
 tgggtggtgt gttctgattg gccaatgggc tgcattcccc ccattaaagt cctcagcgac 780
 cggagggtaa ttgcacttgc agcaactctg ctctgcctaa ttggcctgat atgcacagcc 840
 ctgtgtcttg aagacgggca caagagaagg atccttactc tgggcttgag acttctctgt 900
 atccatttcc tcccggcgag taacctgttc tcccgagtg gctctgtggt cgggagcgt 960
 gtccctcacc tcccagcat tgggtactgt gtgctgtgga ctcttggatt cggagccctg 1020
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 gctgataaag ccaaccagac agctgcatac aqatactacc gggaaagctgt aagatttaat 1260
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 caggaagctg aggagctgct gtcttttggc gttccaaatac agccagactt tgcctgtggt 1380
 tggatgaatc taggcatagt gcagaatagc ctgaaaagggt ttgaagcagc agagcaagt 1440
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 ctgaaaatag agtaacagct ggcctgggac aactgatta tacttcttga caatccaggt 1620

aatttagccc	aagctgaagc	agcttggaaga	gaggcaactgg	aattaataacc	taattgatacc	1680
tctctcaagt	tctcgtttggc	aaaagtgctg	gggaaatccc	agaaatacaa	ggatctctgaa	1740
gctttattcc	tcaaggcaat	taaagcaaat	ccaaatgctg	caagttacca	tggtaatttg	1800
gctgtgcttt	atcctcgttg	gggacatcta	gaattggcca	aaaaaaccta	tgaatctctc	1860
tggcagcttg	accccaaggc	atcagggaact	aaggagaatt	acggtctgct	gagaagaaag	1920
ctagaactaa	tgcataaagaa	agctgtc				1947

<210> 75
 <211> 279
 <212> DNA
 <213> Homo sapiens

atgatccatc	tgggtccaat	ctctctctctg	cttttgcctc	cagtggctgc	agctcagacg	60
actccaggag	agagatcctc	actccctggc	ttttacccctg	gcacttcagg	ctcttctctc	120
ggatctcggg	ccctctctct	gcctctctctg	gcaggctctg	tggctgtgta	tgggtggcca	180
tggctgtcta	tgggtggggc	ggtgtctctg	tgggaagccc	cacgcgcgag	ccctgcctaa	240
gaagctggca	aagtctacat	caacatgcca	ggcaggggc			300

<210> 76
 <211> 1275
 <212> DNA
 <213> Homo sapiens

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ctccagagg	gttggagcct	ccctctctac	gtctctgtgc	tgttggctct	ggggaaactg	120
gtctgtgtg	tggtagaccc	ctggagagag	ctggctcagc	gaaaggaaga	gcaggtctcc	180
atcccgcttg	tgcaggttgt	gggcattggt	ggcagagccc	tgttggctct	tctgtggcac	240
catgtggccc	cagtggcagg	acagttgcat	tctgtggcct	tcttagcaat	ggccttctgt	300
ctggcaactg	catgctgtgc	ctcgaatgtc	actttctctg	ccctcttgag	ccacttgcca	360
ctcctctctc	tacggtcatt	cttctctggt	caaggctctg	gtgcctctgt	gcctctggct	420
ctggcctctg	tgcaggttgt	gggcctgccc	gagtgcctgc	cagcccccct	caacggcacc	480
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ccacctctct	tacccacagg	ggagtttaga	tcaggctctc	aggtgggagg	ccagggagca	660
gggaagagg	tggaaaggtc	ctcaccactg	caagagccac	caagccaggc	agcaggcacc	720
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ctctgtctac	cttaacgggg	tctggctctc	caactggctg	tgggtgtggg	cagtgtctgc	900
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ccctgcctgc	ccctgggtgg	caactggctg	gggtgtgtgc	tgtgtgtgtg	gtcgtgggtg	1080
ctgtctctct	gggtgtctct	ctactgtgag	gtggcagcca	gtcctctgtg	gcctggcggg	1140
ggcctgcctg	cattgtgtgc	agcgggggtg	gcctctcagg	tgggtctctc	gtcgggtgtg	1200
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gacccctgtg	actcc					1275

<210> 77
 <211> 447
 <212> DNA
 <213> Homo sapiens

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aagccgcccc	ggttgacat	gcgttggtgc	atgaactgtg	atgtctctgt	gggggtgtct	120
tacttctctc	tcaacggagg	aataatttat	gatgttattg	ttgaaactcc	aagtgtcggg	180
tctatgactg	atgaacatgg	gcctcagagg	ccagtagctt	tcttggccta	cagagtaaat	240
ggacaatata	ttatgggaag	aattgcatac	agcttctctt	ttacaatggg	aggttttaggt	300
ttcataatcc	tggagcagac	gaatgcacaa	aataatccaa	aactcaatag	attcctctct	360
ctgttcaatt	gactctctct	tgtctctatt	agttttttca	tgggtagagt	attcctgaga	420

atgaaactgc cgggctatct gatgggt

447

<210> 73
 <211> 1188
 <212> DNA
 <213> Homo sapiens

<401> 75
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 atctattact tagogatctt tcagtgtaat tggctggaag tgaataaccac agcctctgat 180
 gttgaacaga ccacacgtga gcttjtgctc aaagccatgt ttttggctga caccattttg 240
 attggggaat tcttaggcca ctggctggac aaattacgaa gggaaatggca gatggagaga 300
 gogttccaga cagctctgtg gttgctgacg ccggaagtcg ccttcctcct gggggatato 360
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 aaaatgttca gacacccaag ccatgtacag ctgaaggtag ttgctggaaa ccatgacatt 480
 ggcttcacat atgagatgaa cacatacaaa gtgaagcgt ttgagaaat gttcagctct 540
 gaaagactgt tttcttggaa aggcattaac ttgtgtatgg tcaacagcgt gggctggaac 600
 ggggaggtgt gtggcatctg ctctgaaaca gaagcagaga ccatggaagt tctccacaga 660
 ctgactctct ccgagagagg aggtgtctcc agcctgtgtg gacctgggac tctgctgccc 720
 agctctgccc ctctctctct gcagcattat cctctgtatc ggagaagtga tggtaactgt 780
 tctggggaag acgtctctcc tgcagaggaa agggacatcc cat tcaagga gaactatgac 840
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 gcccctctt ttaggtggag gaacagaaac aaacctcagt ccatcatggg tagcatcag 1020
 ccacagact acacccctcc caagtgtatc ctccacgtg aggatgtgtt ttgatcctc 1080
 gactgtggag tgtgtgggtt ccttctgtgt ctccacatca ctcaatttgg gcttctagac 1140
 tcaattttc ttctgtgtt gactgtgtc ggaagaggtc agcaaga 1188

<210> 75
 <211> 1188
 <212> DNA
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Val Leu Leu Tyr Arg Ile Ala Arg Arg Met Lys Pro Thr His Thr Met
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Pro Glu Leu Pro Gly Ser Ala Leu Arg Ser Leu Trp Ser Ser Leu Cys
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 Met Leu Val His Leu Phe Arg Val Gly Ile Arg Gly Gly Pro 10
 1 5 10
 ttc cca ggc agg ctg cta ccg ccc ctg cgg ttc cag aca ttc tca gct 150
 Phe Pro Gly Arg Leu Leu Pro Pro Leu Arg Phe Gln Thr Phe Ser Ala 15
 15 20 25 30
 gtc agg tac tct gat ggc tac cgc agc tcc tcc ctg ctg cgg gcc gtg 200
 Val Arg Tyr Ser Asp Gly Tyr Arg Ser Ser Ser Leu Leu Arg Ala Val 35
 35 40 45
 gcc cac ctg cgg tcc cag ctc tgg gcc cac ctg cct cga gcc ccc cta 250
 Ala His Leu Arg Ser Gln Leu Trp Ala His Leu Pro Arg Ala Pro Leu 50
 50 55 60
 gct ccc aga tgg agc ccc tct gcc tgg tgg gtt ggg gga gcc ctg 300
 Ala Pro Arg Trp Ser Pro Ser Ala Trp Cys Trp Val Gly Gly Ala Leu 65
 65 70 75
 cta ggr ccc atg gta ctg agt aag cat ccc cac ctg tgc att gtg gcc 340
 Leu Gly Pro Met Val Leu Ser Lys His Pro His Leu Cys Leu Val Ala 80
 80 85 90
 ctg tgt gag gaa gaa gag gcc cct cct gcc agc tcc aca ccc cat gtc 390
 Leu Cys Glu Ala Glu Glu Ala Pro Pro Ala Ser Ser Thr Pro His Val 95
 95 100 105 110
 gtg ggt tct cgc ttt aac tgg aag ctg ttc tgg cag ttt ctg cac ccc 440
 Val Gly Ser Arg Phe Asn Trp Lys Leu Phe Trp Gln Phe Leu His Pro 115
 115 120 125
 cac ctg ctg gtc ctg ggg gta gcc gtc gtg ctg gcc ttg ggt gcg gca 490
 His Leu Leu Val Leu Gly Val Ala Val Val Leu Ala Leu Gly Ala Ala 130
 130 135 140
 cta gtg aac gta gag atc ccc ctg ttc ctg ggc cag ctg gta gag gtc 540
 Leu Val Asn Val Gln Ile Pro Leu Leu Leu Gly Gln Leu Val Glu Val 145

145	150	155	
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Val Ala Lys Tyr Thr Arg Asp His Val Gly Ser Phe Met Thr Glu Ser			
160	165	170	
cag aat ctc agc acc cag ctg ctt atc ctc tat ggt gtc cag gga atg			636
Gln Asn Leu Ser Thr His Leu Leu Ile Leu Tyr Gly Val Gln Gly Leu			
175	180	185	190
ctg acc ttc ggg tac ctg gtg ctg ctg tcc cac gtt ggc gag cgc atg			684
Leu Thr Phe Gly Tyr Leu Val Leu Leu Ser His Val Gly Glu Arg Met			
195	200	205	
ggt gtg gac atg cgg agg gcc ctc ttc agc tcc ctg ctc cgg tac tgc			732
Ala Val Asp Met Arg Arg Ala Leu Phe Ser Ser Leu Leu Arg Tyr Cys			
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Gln Pro Gln Gly Ala Glu Leu Gly Gln Asp Ile Thr Phe Phe Asp Ala			
225	230	235	
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Asn Lys Thr Gly Gln Leu Val Ser Arg Leu Thr Thr Asp Val Gln Glu			
240	245	250	
ttt aag tca tcc ttc aag ctt gtc atc tcc cag ggg ctg cga agc tgc			876
Phe Lys Ser Ser Phe Lys Leu Val Ile Ser Gln Gly Leu Arg Ser Cys			
255	260	265	270
acc cag gtg gca ggc tgc ctg gtg tcc ctg tcc atg ctg tcc aca cgc			924
Thr Gln Val Ala Gly Cys Leu Val Ser Leu Ser Met Leu Ser Thr Arg			
275	280	285	
ctc aag ctc ctg ctg atg gtg gcc aca cca gcc ctg atg gga gtg ggc			972
Leu Thr Leu Leu Leu Met Val Ala Thr Pro Ala Leu Met Gly Val Gly			
290	295	300	
acc ctg atg ggc tca ggc ctc cga aaa ttg tct tgc cag tct cag gag			1020
Thr Leu Met Met Gly Ser Gly Leu Arg Lys Leu Ser Cys Gln Cys Gln Glu			
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cag atc gcc agt gca atg ggc gta gca gac gag gcc ctg ggc aat gtg			1068
Gln Ile Ala Arg Ala Met Gly Val Ala Asp Gln Ala Leu Gly Asn Val			
320	325	330	
cgg aat gtg cgt gcc ttc gcc atg gag caa cgg gaa gag gag cgc tat			1116
Arg Thr Val Arg Ala Phe Ala Met Gln Gln Arg Gln Glu Glu Arg Tyr			
335	340	345	350
ggg gca gag ctg gaa gcc tgc cgc tgc cgg gca gag gag ctg ggc cgc			1164
Gly Ala Glu Leu Glu Ala Cys Arg Cys Arg Ala Glu Glu Leu Gly Arg			
355	360	365	
ggc atc gcc ttg ttc caa ggg ctt tcc aac atc gcc ttc aac tgc atg			1212
Gly Ile Ala Leu Phe Gln Gly Leu Ser Asn Ile Ala Phe Asn Cys Met			
370	375	380	
gtc ttg ggt acc cta ttt att ggg ggc tcc ctt gtg gcc gga cag cag			1260
Val Leu Gly Thr Leu Phe Ile Gly Gly Ser Leu Val Ala Gly Gln Gln			
385	390	395	
ctg aca ggg gga gac ctc atg tcc ttc ctg gtg gcc tcc cag aca gtg			1308
Leu Thr Gly Gly Asp Leu Met Ser Phe Leu Val Ala Ser Gln Thr Val			
400	405	410	
caa agg ctg tgacattcca tgcattggaag gacatccctt gacaggctgt gtg			1360
Gln Arg Leu			
415			
agctgcacat accatgact gccacttcca gggatgacaa gctgacccct gtccccccac			1420
accccacccct tatagcttat tgcctttgcgt tggctccaaaa ccaccgcctc agctgacct			1480
ctgggatgac cagagctgat caccagacag ctcaaggcgg gcttcccccc tccctatctct			1540
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agcatttgct gagagcatgc cgtatgcag gctgtgaggc tcgagagaca agcagtgga	180
gagtggggc ctgtttcctc tctggattgt aaatctgagc ctactttctgg cccctggaag	240
aggacagcat cagcatgga atg att cct aac cag cat aat gct gga gcc ggg	292
Met Ile Pro Asn Gln His Asn Ala Gly Ala Gly	
1 5 10	
agg cac caa cct gca gtt ttc aga atg gcc gtg ttg gac act gat ttg	340
Ser His Gln Pro Ala Val Phe Arg Met Ala Val Leu Asp Thr Asp Leu	
15 20 25	
gat cac att ctt cca tct tct gtt ctt cct cca ttc tgg gct aag tta	388
Asp His Ile Leu Pro Ser Ser Val Leu Pro Pro Phe Trp Ala Lys Leu	
30 35 40	
gta gtg gga tgc gtt gcc att gtg tgt ttt gca cgc agc tat gat gga	436
Val Val Gly Ser Val Ala Ile Val Cys Phe Ala Arg Ser Tyr Asp Gly	
45 50 55	
gac ttt gtc ttt gat gac tca gaa gct att gtt aac aat aag gtt gct	484
Asp Phe Val Phe Asp Asp Ser Glu Ala Ile Val Asn Asn Lys Val Ala	
60 65 70 75	
gtt gtt gtc agc cgt gca gac ctc ctg tgt gcc ctg ttc ttc ttg gta	532
Gly Val Val Gly Arg Ala Asp Leu Leu Cys Ala Leu Phe Phe Leu Leu	
80 85 90	
tct ttc ctt ggc tac tgt aaa gca ttt aga gaa agt aac aag gac gga	580
Ser Phe Leu Gly Tyr Cys Lys Ala Phe Arg Glu Ser Asn Lys Glu Gly	
95 100 105	
ggg cat tct tcc aac ctc tgg gtg ctg ctg agt atc ttt ctg gga gca	628
Ala His Ser Ser Thr Phe Trp Val Leu Leu Ser Ile Phe Leu Gly Ala	
110 115 120	
gtg gcc atg ctg tgc aaa gag caa ggg atc act gtg ctg ggt tta aat	676
Val Ala Met Leu Cys Lys Glu Gln Gly Ile Thr Val Leu Gly Leu Asn	
125 130 135	
ggg gta ttt gac atc ttg gtg ata ggc aaa ttc aat gtt ctg gaa att	724
Ala Val Phe Asp Ile Leu Val Ile Gly Lys Phe Asn Val Leu Glu Ile	
140 145 150 155	
gtc cag aag gta cta cat aag gac aag tca tta gag aat ctc ggc atg	772
Val Gln Lys Val Leu His Lys Asp Lys Ser Leu Glu Asn Leu Gly Met	
160 165 170	
ctc agg aac ggg ggc ctc ctc ttc aga atg acc ctg ctc aac tcc gga	820
Leu Arg Asn Gly Gly Leu Leu Phe Arg Met Thr Leu Leu Thr Ser Gly	
175 180 185	
ggg gct ggg atg ctc tcc gtg cgc tgg agg atc atg ggc aag ggc cgg	868
Gly Ala Gly Met Leu Tyr Val Arg Trp Arg Ile Met Gly Thr Gly Pro	
190 195 200	
cag gcc ttc acc gag gtg gac aac cgg gcc tcc ttt gct gac agc atg	916
Pro Ala Phe Thr Glu Val Asp Asn Pro Ala Ser Phe Ala Asp Ser Met	
205 210 215	
ctg gtg agg gcc gta aac tac aat tac tac tat tca ttg aat gcc tgg	964
Leu Val Arg Ala Val Asn Tyr Asn Tyr Tyr Tyr Ser Leu Asn Ala Trp	
220 225 230 235	
ctg ctg ctg tgt gcc tgg tgg ctg tgt ttt gat tgg tca atg gcc tgc	1012
Leu Leu Leu Cys Pro Trp Trp Leu Cys Phe Asp Trp Ser Met Gly Cys	
240 245 250	
atg cac ctc att aag tcc atc agc gac tgg agg gta att gca ctt gca	1060
Ile Pro Leu Ile Lys Ser Ile Ser Asp Trp Arg Val Ile Ala Leu Ala	

255	260	265	
gca ctc tgg ttc tgg cta att ggc ctg ata tgc gaa gcc ctg tgc tct			1108
Ala Leu Trp Phe Cys Leu Ile Gly Leu Ile Cys Gln Ala Leu Cys Ser			
270	275	280	
gaa gac gcc cac aag aga agg atc ctt act ctg ggc ctg gga ttt ctc			1156
Glu Asp Gly His Lys Arg Arg Ile Leu Thr Leu Gly Leu Gly Phe Leu			
285	290	295	
gtt atc cca ttt ctc ccc ggc agt aac ctg ttc ttc cga gtc ggc ttc			1204
Val Ile Pro Phe Leu Pro Ala Ser Asn Leu Phe Phe Arg Val Gly Phe			
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gtg gtc gcc gag cgt gtc ctc tac ctc ccc aac att ggg tac tgt ctc			1252
Val Val Ala Glu Arg Val Leu Tyr Leu Pro Ser Ile Gly Tyr Cys Val			
320	325	330	
ctg ctg act ttt gga ttc gga gcc ctg agc aac cat acc aag aaa aag			1300
Leu Leu Thr Phe Gly Phe Gly Ala Leu Ser Lys His Thr Lys Lys Lys			
335	340	345	
aaa ctc att gcc gct gtc gtg ctg gga atc tta ttc atc aac aac ctc			1348
Lys Leu Ile Ala Ala Val Val Leu Gly Ile Leu Phe Ile Asn Thr Leu			
350	355	360	
aga tgt gtg ctg cgc agc ggc gag tgg cgg aat gag gaa cag ctt ttc			1396
Arg Cys Val Leu Arg Ser Gly Glu Trp Arg Ser Glu Glu Gln Leu Phe			
365	370	375	
aga agt gct ctg tct gtg tgt ccc ctc aat gct aag gtt ctc tac aac			1444
Arg Ser Ala Leu Ser Val Cys Pro Leu Asn Ala Lys Val His Tyr Asn			
380	385	390	
att ggc aaa aac ctg gct gat aaa ggc aac cag aca gct gtc atc age			1492
Ile Gly Lys Asn Leu Ala Asp Lys Gly Asn Gln Thr Ala Ala Ile Arg			
400	405	410	
tat tac cgg gaa gct gta aga tta aat ccc aag tat gtt ctt gcc atg			1540
Tyr Tyr Arg Glu Ala Val Arg Leu Asn Pro Lys Tyr Val His Ala Met			
415	420	425	
aat aat ctt gga aat atc tta aaa gaa agg aat gag cta cag gaa gct			1588
Asn Asn Leu Gly Asn Ile Leu Lys Glu Arg Asn Glu Leu Gln Gln Ala			
430	435	440	
cag gag ctg ctg tct ttg gct gtt caa ata cag cca gac ttt gcc gct			1636
Glu Glu Leu Leu Ser Leu Ala Val Gln Ile Gln Pro Asp Phe Ala Ala			
445	450	455	
ccg tgg atg aac cta ggc ata gtc cag aat aac ctg aaa cgg ttc gaa			1684
Ala Trp Met Asn Leu Gly Ile Val Gln Asn Ser Leu Lys Arg Phe Glu			
460	465	470	475
gaa gca gag caa agt tac cgg aca gca att aaa cac aga agg aaa tac			1732
Ala Ala Glu Gln Ser Tyr Arg Thr Ala Ile Lys His Arg Arg Lys Tyr			
480	485	490	
cca gac tgt tac tac aac ctc ggg cgt ctg tat gca gat ctc aat cgc			1780
Pro Asp Cys Tyr Tyr Asn Leu Gly Arg Leu Tyr Ala Asp Leu Asn Arg			
495	500	505	
cac gtg cat gcc ttg aat ggc tgg aga aat gcc acc gtg ctg aaa cca			1828
His Val Asp Ala Leu Asn Ala Trp Arg Asn Ala Thr Val Leu Lys Pro			
510	515	520	
gag cac agc ctg gcc tgg aac aac atg att ata ctc ctc gac aat aca			1876
Glu His Ser Leu Ala Trp Asn Asn Met Ile Ile Leu Leu Asp Asn Thr			
525	530	535	
ggc aat tta gcc caa gct gaa gca gtt gga aga gag gca ctg gaa tta			1924
Gly Asn Leu Ala Gln Ala Glu Ala Val Gly Arg Glu Ala Leu Glu Leu			
540	545	550	555
ata cct aat gat caa tct ctc atg ttc tgc ttg gca aac gtc ctg ggg			1972
Ile Pro Asn Asp His Ser Leu Met Phe Ser Leu Ala Asn Val Leu Gly			
560	565	570	
aaa tcc gag aaa tac aag gaa tct gaa gct tta ttc ctc aac caa att			2020
Lys Ser Gln Lys Tyr Lys Glu Ser Glu Ala Leu Phe Leu Lys Ala Ile			
575	580	585	

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tyr his arg trp gly his leu asp leu ala lys lys his tyr glu ile
605 610 615
tcc ttg cag ctr gac ccc acg gca tca gga act aag gag aat tac ggt 2164
ser leu gln leu asp pro thr ala ser gly thr lys glu asn tyr gly
620 625 630 635
ctg ctg aga aga aag cta gaa cta atg caa aag aaa gct gtc tcat 2210
leu leu arg arg lys lys leu glu leu met gln lys lys ala val
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Met ile his leu gly his ile leu phe leu leu leu leu pro val
1 5 10 15
gct gca gct cag acg act cca gga gag aga tca tca ctc cct gcc ttt 158
ala ala ala gln thr thr pro gly glu arg ser ser leu pro ala phe
20 25 30
tac cct ggc act tca ggc tct tgt tcc gga tgt ggg tcc ctc tct ctg 166
tyr pro gly thr ser gly ser cys ser gly cys gly ser leu ser leu
35 40 45
ccg ctc ctg gca ggc ctc gtg gct gct gat gag gtg gca tcc ctg ctc 174
pro leu leu ala gly leu val ala ala asp ala val ala ser leu leu
50 55 60
acc gtg ggg ggg gtg ctc ctg tgc gca cgc cca agc cgc agc ccc gcc 182
ile val gly ala val phe leu cys ala arg pro arg arg ser pro ala
65 70 75
caa gaa gat ggc aaa gtc tac atc aac atg cca ggc agg ggc tgaacc 190
glu glu asp gly lys val tyr ile asn met pro gly arg gly
80 85 90
tctgtagct tggacttttg attttctgac ctctctctct ggatgtgtg tctgtggaca 410

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458

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tggcagcacc cagcccccgc cgtccgggtgc tgacccacct gctgggtggt cctctcggc	179
atg ggc tcc tgg gct ggc gtc aat ggg atc tgg gtg gag cta cct gtg	227
Met Gly Ser Trp Ala Ala Val Asn Gly Ile Trp Val Glu Leu Pro Val	
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Val Val Lys Glu Leu Pro Glu Gly Trp Ser Leu Pro Ser Tyr Val Ser	
20 25 30	
gtg ctt gtg gct ctg ggg aac ctg ggt ctg ctg gtg gtg acc ctc tgg	323
Val Leu Val Ala Leu Gly Asn Leu Gly Leu Leu Val Val Thr Leu Trp	
35 40 45	
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Arg Arg Leu Ala Pro Gly Lys Asp Glu Gln Val Pro Ile Arg Val Val	
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cag gtg ctg gga atg gta ggc aca gcc ctg ctg gcc tct atg tgg cag	419
Gln Val Leu Gly Met Val Gly Thr Ala Leu Leu Ala Ser Leu Trp His	
65 70 75 80	
cat ctg gcc cca gtg gca gga cag ttg cat tct ctg gcc ttc tta gca	467
His Val Ala Pro Val Ala Gly Gln Leu His Ser Val Ala Phe Leu Ala	
85 90 95	
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Leu Ala Phe Val Leu Ala Leu Ala Cys Cys Ala Ser Asn Val Thr Phe	
100 105 110	
ctg ccc ttc ctg agc cag ctg cca cat cgc ttc tta cgg tca ttc ttc	563
Leu Pro Phe Leu Ser His Leu Pro Pro Arg Phe Leu Arg Ser Phe Phe	
115 120 125	
ctg ggt caa ggc ctg agt gcc ctg ctg ccc tgc gtg ctg gcc cta gtg	611
Leu Gly Gln Gly Leu Ser Ala Leu Leu Pro Cys Val Leu Ala Leu Val	
130 135 140	
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Gln Gly Val Gly Arg Leu Gln Cys Pro Pro Ala Pro Ile Asn Gly Thr	
145 150 155 160	
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Pro Gly Pro Pro Leu Asp Phe Leu Glu Arg Phe Pro Ala Ser Thr Phe	
165 170 175	
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Phe Trp Ala Leu Thr Ala Leu Leu Val Ala Ser Ala Ala Ala Phe Gln	
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Gly Leu Leu Leu Leu Leu Pro Pro Pro Ser Val Pro Thr Gly Glu	
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Leu Gly Ser Gly Leu Gln Val Gly Ala Pro Gly Ala Glu Glu Glu Val	
210 215 220	
gaa gag tcc tca cca ctg caa gag cta cca agc cag gaa gca gga acc	899
Glu Glu Ser Ser Pro Leu Gln Glu Pro Pro Ser Gln Ala Ala Gly Thr	
225 230 235 240	
acc ctg ggt cca gac cct aag gcc tct cag ctt cta tca gcc agt agt	947

Thr Pro Gly Pro Asp Pro Lys Ala Tyr Gln Leu Leu Ser Ala Arg Ser
 245 250 255
 gcc tgc ctg ctg gcc ctg ttg gcc gcc aac aac gag ctg acc aat gcc 995
 Ala Cys Leu Leu Gly Leu Leu Ala Ala Thr Asn Ala Leu Thr Asn Gly
 260 265 270
 gtg ctg act gcc gtg gag agc ttt tcc tgc tta ccc tac ggg cgt ctg 1043
 Val Leu Pro Ala Val Gln Ser Phe Ser Cys Leu Pro Tyr Gly Arg Leu
 275 280 285
 gcc tac aac ctg gcc ctg gtg ctg gcc agt gct gcc aat ccc ctg gcc 1091
 Ala Tyr His Leu Ala Val Leu Gly Ser Ala Ala Asn Pro Leu Ala
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 Cys Phe Leu Ala Met Gly Val Leu Cys Arg Ser Leu Ala Gly Leu Gly
 305 310 315 320
 gcc ctg tct ctg ctg gcc gtg ttc tgt ggg gcc tac ctg atg gcc ctg 1187
 Gly Leu Ser Leu Leu Gly Val Phe Cys Gly Gly Tyr Leu Met Ala Leu
 325 330 335
 gaa gtc ctg agc ccc tgc ccc ccc ctg gtg gcc acc tgc gcc ggg gtg 1235
 Ala Val Leu Ser Pro Cys Pro Pro Leu Val Gly Thr Ser Ala Gly Val
 340 345 350
 gcc ctg gtg gtg ctg tcc tgg gtg ctg tct ctt gcc gtg ttc tcc tac 1283
 Val Leu Val Val Leu Ser Trp Val Leu Cys Leu Gly Val Phe Ser Tyr
 355 360 365
 gtc aag gtg gca gcc agc tcc ctg ctg cat gcc ggg gcc cgg ccc gcc 1331
 Val Lys Val Ala Ala Ser Ser Leu Leu His Gly Gly Gly Arg Pro Ala
 370 375 380
 ttc ctg gca gcc gcc gtg gcc atc ccc gtc gcc tct ctg ctg gcc gcc 1379
 Leu Leu Ala Ala Gly Val Ala Ile Gln Val Gly Ser Leu Leu Gly Ala
 385 390 395 400
 gcc gct atg ttc ccc ccc acc agc atc tct ccc gtg ttc ccc agc aga 1427
 Val Ala Met Phe Pro Pro Thr Ser Ile Tyr His Val Phe His Ser Arg
 405 410 415
 aag gac tct gca gac ccc tct gac tac tgagctggg caggtggga cccccc 1480
 Lys Asp Cys Ala Asp Pro Cys Asp Ser
 420 425
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 <222> (53)...(502)

<400> 37
 aacgggagac gctgggggt tgaggccag aacggccctt gctgcacca ac atg 55
 Met
 1
 gag act ttg tac cgt gtc ccc ttc tta gtg ctg gaa tct ccc aac ctg 103
 Glu Thr Leu Tyr Arg Val Pro Phe Leu Val Leu Glu Cys Pro Asn Leu
 5 10 15
 aag ctg aag aag ccc ccc tgc ttg ccc atg ccc ccc gcc atg act gtg 151
 Lys Leu Lys Lys Pro Pro Trp Leu His Met Pro Ser Ala Met Thr Val
 20 25 30
 tat gct ccc gtg gtg gtg tct tac ttc ctc acc acc gga gga ata att 199
 Tyr Ala Leu Val Val Val Ser Tyr Phe Leu Ile Thr Gly Gly Ile Ile

35	40	45	
tat gat ggt att gtt gaa cct cca agt gtc ggt tct atg aat gat gaa			247
Tyr Asp Val Ile Val Glu Pro Pro Ser Val Gly Ser Met Thr Asp Glu			
50	55	60	65
cat ggg cat cag agg cca gta ggt ttc ttg gcc tac aga gta aat gga			295
His Gly His Gln Arg Pro Val Ala Phe Leu Ala Tyr Arg Val Asn Gly			
70	75	80	
caa tat att atg gaa gga ctt gga tcc agc ttc cta ttt aca atg gga			343
Gln Tyr Ile Met Glu Gly Leu Ala Ser Ser Phe Leu Phe Thr Met Gly			
85	90	95	
ggg tta ggt ttc ata atc atg gac cga tgc aat gca cca aat atc cca			391
Gly Leu Gly Phe Ile Ile Leu Asp Arg Ser Asn Ala Pro Asn Ile Pro			
100	105	110	
aaa ctc aat aga ttc ctt ctt ctg ttc att gga ttc gtc tgt gtc cta			439
Lys Leu Asn Arg Phe Leu Leu Leu Phe Ile Gly Phe Val Cys Val Leu			
115	120	125	
ctg agt ttt ttc atg gct aga gta ttc atg aga atg aaa ctg ccg ggc			487
Leu Ser Phe Phe Met Ala Arg Val Phe Met Arg Met Lys Leu Pro Gly			
130	135	140	145
cat ctg atg ggt tagagtgcct ttgagaagaa atcagtggat actggatttg c			540
Tyr Leu Met Gly			

tcctgtcaat gaagtttttaa aggtcgtacc aatcctctaa tatgaaatgt ggaaaagaat	600
gaagagcagc agtaaaagaa atattctagtg aaaaaacagg aagcgtatttg aagccttgga	660
agaattttct tcctgggtatt aaagagacaa gtttatcaca gaattttttt tcctgtctgg	720
ctattgctat accaatgatg ttgagtggca tttctttttt agtttttcac taaaatatat	780
tcctatctca caactataat atcaataaaa gtgattatttt tttaaaaccc tcttaacatt	840
ttttggagat caattttctg attttcagaa attaacataa attcagaaag caagatttccg	900
taagctgaga aat ttggaca gttgatcaga tttaactatg ctgcttttgc ttttaactaga	960
ggtgtgtgag gtgattattt taagataatg atgtaaaaat gtttcttgaa caataagatg	1020
tatgaacgga gcaqaaataa atactttttc taatt	1080

<210> 33
 <211> 1616
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (222) ... (1412)

<400> 33	
gagctctcac ggtttctctt ttctgacaa aaagaatatt aatgaaactt tatcatcttg	60
gtgacaaaaa cattcttaata gctttattct gacatacggg ggtatggaga gcttgaagga	120
gtcagagagg tgcccagcta agactgaat gccatcaccc tcccagggc tctgagttt	180
tcctcgtggg aactcttgat ggattgttg ttgcttgaga a atg gag atg atc	240
	Met Ala Met Ile

gaa ttg ggg ttt gga aga cag aat ttt cat cca tta aag agg aag agt	281		
Glu Leu Gly Phe Gly Arg Gln Asn Phe His Pro Leu Lys Arg Lys Ser			
5	10	15	20
tca ttg ctg ttg aaa ctc ata gct gtt gtc ttt gct gtg ctt cta ttt	340		
Ser Leu Leu Leu Lys Leu Ile Ala Val Val Phe Ala Val Leu Leu Phe			
25	30	35	
tgt gaa ttt tta atc tat tac tta ggc atc ttt cag tgt aat tgg cct	400		
Cys Glu Phe Leu Ile Tyr Tyr Leu Ala Ile Phe Gln Cys Asn Trp Pro			
40	45	50	
gaa gtg aaa acc aca gcc tct gat ggt gaa cag acc aca cgt gag cct	460		
Glu Val Lys Thr Thr Ala Ser Asp Gly Glu Gln Thr Thr Arg Glu Pro			
55	60	65	
gtg ctc aaa gac atg ttt ttg gct gac acc cat ttg cta ggg gaa tta	520		

Val	Leu	Lys	Ala	Met	Phe	Leu	Ala	Asp	Thr	His	Leu	Leu	Gly	Glu	Phe	
70						75					80					
cta	ggc	cac	tgg	ctg	gac	aaa	tta	cga	agg	gaa	tgg	cag	atg	gag	aga	521
Leu	Gly	His	Trp	Leu	Asp	Lys	Leu	Arg	Arg	Glu	Trp	Gln	Met	Glu	Arg	
85					90					95					101	
ggg	ttc	cag	aca	gct	ctg	tgg	tta	ctg	cag	cgg	gaa	gtc	gtc	ttc	atc	569
Ala	Phe	Gln	Thr	Ala	Leu	Trp	Leu	Leu	Gln	Pro	Glu	Val	Val	Phe	Ile	
				105					110					115		
ctg	ggg	gat	atc	ttt	gat	gaa	ggg	aag	tgg	agg	acc	cct	gag	goc	tgg	617
Leu	Gly	Asp	Ile	Phe	Asp	Glu	Gly	Lys	Trp	Ser	Thr	Pro	Gln	Ala	Trp	
			120					125					130			
ggg	gat	gat	gtg	gag	cgg	ttt	cag	aaa	atg	ttc	aga	cac	cga	agt	cac	665
Ala	Asp	Asp	Val	Glu	Arg	Phe	Gln	Lys	Met	Phe	Arg	His	Pro	Ser	His	
			135				140					145				
gta	cag	ctg	aag	gta	gtt	gct	gga	aac	cat	gac	att	ggc	tta	cat	tat	713
Val	Gln	Leu	Lys	Val	Val	Ala	Gly	Asn	His	Asp	Ile	Gly	Phe	His	Tyr	
150					155						160					
gag	atg	aac	aca	tac	aaa	gta	gaa	cgc	ttt	gag	aaa	gtg	tta	agc	tot	761
Glu	Met	Asn	Thr	Tyr	Val	Glu	Arg	Phe	Glu	Lys	Val	Phe	Ser	Ser		
165					170				175					180		
gaa	aga	ctg	ttt	tot	tgg	aaa	ggg	att	aac	ttt	gtg	atg	gtc	aac	ago	809
Glu	Arg	Leu	Phe	Ser	Trp	Lys	Gly	Ile	Asn	Phe	Val	Met	Val	Asn	Ser	
			185					190					195			
gtg	ggg	ctg	aac	ggg	gat	ggc	tgt	ggc	atc	tgc	tct	gaa	aca	gaa	gca	857
Val	Ala	Leu	Asn	Gly	Asp	Gly	Cys	Gly	Ile	Cys	Ser	Glu	Thr	Glu	Ala	
			200				205					210				
gag	ctc	att	gaa	gtt	tct	cac	aga	ctg	aac	tgg	tac	cga	gag	gca	ggt	905
Glu	Leu	Ile	Gln	Val	Ser	His	Arg	Leu	Asn	Cys	Ser	Arg	Gln	Ala	Arg	
		215				220						225				
ggc	ccc	agg	cgg	tgt	gga	cct	gga	cct	ctg	ctg	ccc	agg	tct	gac	cct	953
Gly	Ser	Ser	Arg	Cys	Gly	Pro	Gly	Pro	Leu	Leu	Pro	Thr	Ser	Ala	Pro	
		230				235					240					
gtc	ctc	ctg	cag	cat	tac	cct	ctg	tat	cgg	aga	agt	gat	gct	aac	tgt	1001
Val	Leu	Leu	Gln	His	Tyr	Pro	Leu	Tyr	Arg	Arg	Ser	Asp	Ala	Asn	Cys	
245					250					255					260	
tct	ggg	gaa	gac	gct	gct	cct	gca	gag	gaa	agg	gac	atc	cca	ttt	aag	1049
Ser	Gly	Glu	Asp	Ala	Ala	Pro	Ala	Glu	Glu	Arg	Asp	Ile	Pro	Phe	Lys	
			265					270						275		
gag	aac	tat	gac	gtg	ctt	tca	cgg	gag	gca	tca	caa	aag	ctg	ctg	tgg	1097
Glu	Asn	Tyr	Asp	Val	Leu	Ser	Arg	Glu	Ala	Ser	Gln	Lys	Leu	Leu	Trp	
			280				285					290				
ggg	ctc	cag	cgg	cgc	ctg	gtt	ctc	agt	ggc	cac	acg	cac	agg	goc	tgc	1145
Trp	Leu	Gln	Pro	Arg	Leu	Val	Leu	Ser	Gly	His	Thr	His	Ser	Ala	Cys	
		295				300						305				
gag	gtg	cac	cac	ggg	ggc	cga	gtc	ccc	gag	ctc	agg	gtc	cca	tct	ttc	1193
Glu	Val	His	His	Gly	Gly	Arg	Val	Pro	Glu	Leu	Ser	Val	Pro	Ser	Phe	
		310				315						320				
agt	tgg	agg	aac	aga	aac	aac	ctc	agt	tta	atc	atg	ggt	agg	atc	agg	1241
Ser	Trp	Arg	Asn	Arg	Asn	Asn	Pro	Ser	Phe	Ile	Met	Gly	Ser	Ile	Thr	
			325			330					335				340	
ccc	aca	gac	tac	acc	ctc	tac	aag	tgc	tac	ctc	cca	cgt	gag	gat	gtg	1289
Pro	Thr	Asp	Tyr	Thr	Leu	Ser	Lys	Cys	Tyr	Leu	Pro	Arg	Glu	Asp	Val	
			345						350					355		
gtt	tta	atc	atc	tac	tgt	gga	gtg	gtg	ggc	tta	ctt	gtg	gtc	ctc	aca	1337
Val	Leu	Ile	Ile	Tyr	Cys	Gly	Val	Val	Gly	Phe	Leu	Val	Val	Leu	Thr	
		360						365					370			
ctc	act	cac	ttt	ggg	ctt	cta	gct	tca	cct	ttt	ctt	tct	ggt	ttg	aac	1385
Leu	Thr	His	Phe	Gly	Leu	Leu	Ala	Ser	Pro	Phe	Leu	Ser	Gly	Leu	Asn	
		375					380					385				
ctg	ctc	gga	aag	cgt	aag	aca	aga	tga	aga	gag	gag	gag	gag	gag	a	1431
Leu	Leu	Gly	Lys	Arg	Lys	Thr	Arg									

390 395
 aatatacaaaq cccaaagaaat ggaactttgg agagagatca tgttagaate aagtgatga 1490
 agagaccaat tacagggcgt ctctctgcac agcacagaaa ttctcaatca ctgaaatgag 1550
 taactgcaaa ataaatagtt gattgtactg ttctcatgct ataaaaagtgg acaggtactc 1610
 tacaac 1616

<210> 89
 <211> 1860
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (69)...(1121)

<400> 89
 gagaagtgtc gggtccgtgc ggcgggggtt ggggaggtct caggtgtgcc gaagctctgg 60
 tcagtgcc atg atc cgg cag gag cgc tcc aca tcc tac cag gag ctg 107
 Met Ile Arg Gln Glu Arg Ser Thr Ser Tyr Gln Glu Leu
 1 5 10
 agt gag gag ttg gtc cag gtg gtt gag aac tca gag ctg gca gac gag 155
 Ser Glu Glu Leu Val Gln Val Val Glu Asn Ser Glu Leu Ala Asp Glu
 15 20 25
 cag gag aag gag aag gtc aga gtc aca ggt ccg ggt atc tta cca ggc 203
 Gln Asp Lys Glu Thr Val Arg Val Gln Gly Pro Gly Ile Leu Pro Gly
 30 35 40 45
 ctg gag aag gag tcc gcc tcc agc aac atc cgc ttc aag aag gcc tgc 251
 Leu Asp Ser Gln Ser Ala Ser Ser Ser Ile Arg Phe Ser Lys Ala Tyr
 50 55 60
 ctg aag aac gtc ttc ccg gtc ata ctc atc ttc atc tac ctg ctg ctc 299
 Leu Lys Asn Val Phe Ser Val Leu Leu Ile Phe Ile Tyr Leu Leu Leu
 65 70 75
 atg atc gag gcc gtc ttc ctg gtc tac ccg aac atc aca gac ttc cgt 347
 Met Ala Val Ala Val Phe Leu Val Tyr Arg Thr Ile Thr Asp Phe Arg
 80 85 90
 gag aaa ctc aag cac cct gtc atg tct gtg tct tac aag gaa gtg gat 395
 Glu Lys Leu Lys His Pro Val Met Ser Val Ser Tyr Lys Glu Val Asp
 95 100 105
 cgc tat gat gcc cca ggt att gcc ttg tac ccc ggt cag gcc cag ttg 443
 Arg Tyr Asp Ala Pro Gly Ile Ala Leu Tyr Pro Gly Gln Ala Gln Leu
 110 115 120 125
 ctc aac cgt aag cac cat tac gag gtc att cct cct ctg aca agc cct 491
 Leu Ser Cys Lys His Tyr Glu Val Ile Pro Pro Leu Thr Ser Pro
 130 135 140
 ggc cag ccg ggt gac atg aat tgc acc aac cag agg atc aac tac acc 539
 Gly Gln Pro Gly Asp Met Asn Cys Thr Thr Gln Arg Ile Asn Tyr Thr
 145 150 155
 gag gcc ttc ttc aat cag aat gtg aaa tat gcc ctg att gtc cag ggc 587
 Asp Pro Phe Ser Asn Gln Thr Val Lys Ser Ala Leu Ile Val Gln Gly
 160 165 170
 ccc ccg gaa gtg aaa aag ccg gag ctg gtc ttc ctc cag ttc cgc ctg 635
 Pro Arg Glu Val Lys Lys Arg Glu Leu Val Phe Leu Gln Phe Arg Leu
 175 180 185
 aac aag agt agt gag gac ttc agc gcc att gat tac ctc ctc ttc tct 683
 Asn Lys Ser Ser Glu Asp Phe Ser Ala Ile Asp Tyr Leu Leu Phe Ser
 190 195 200 205
 tct ttc cag gag ttc ctg aca agc cca aac agg gta gcc ttc atg cag 731
 Ser Phe Gln Glu Phe Leu Gln Ser Pro Asn Arg Val Gly Phe Met Gln
 210 215 220
 aac cgt gag agt gcc tat ttc agc tgg aag ttc tct ggt gcc ttc cgc 779
 Ala Cys Glu Ser Ala Tyr Ser Ser Trp Lys Phe Ser Gly Gly Phe Arg

225 230 235
 acc tgg gtc aag atg tca ctg gta aag acc aag gag gag gat ggg cgg 827
 Thr Trp Val Lys Met Ser Leu Val Lys Thr Lys Glu Glu Asp Gly Arg
 240 245 250
 gaa gca gtg gag ttc cgg cag gag aca agt gtg gtt aac tac att gac 875
 Glu Ala Val Glu Phe Arg Gln Glu Thr Ser Val Val Asn Tyr Ile Asp
 255 260 265
 cag agg cca gct gcc aaa aaa agt gct caa ttg ttt ttt gtg gtc ttt 923
 Gln Arg Pro Ala Ala Lys Lys Ser Ala Gln Leu Phe Phe Val Val Phe
 270 275 280 285
 gaa tgg aaa gat cct ttc atc cag aaa gtc caa gat ata gtc act gcc 971
 Glu Trp Lys Asp Pro Phe Ile Gln Lys Val Gln Asp Ile Val Thr Ala
 290 295 300
 aat cct tgg aac aca att gct ctt ctg tgt ggc gcc ttc ttg gca tta 1019
 Asn Pro Trp Asn Thr Ile Ala Leu Leu Cys Gly Ala Phe Leu Ala Leu
 305 310 315
 ttt aaa gca gca gag ttt gcc aaa ctg agt ata aaa tgg atg atc aaa 1067
 Phe Lys Ala Ala Glu Phe Ala Lys Leu Ser Ile Lys Trp Met Ile Lys
 320 325 330
 att aga aag aga tac ctt aaa aga aga ggt cag gca acg agc cac ata 1115
 Ile Arg Lys Arg Tyr Leu Lys Arg Arg Gly Gln Ala Thr Ser His Ile
 335 340 345
 agc tgaagtcacc tggcgttgtt tagagaactg tccacatcaa tgggagctgt ca 1170
 Ser
 350
 tcaacttcaac ttgttaaacg gagatataca caatcctgta ctcaactgaa gaaatggggc 1230
 ctgtctggga ggaacagcat gtaaaacttg aactcttaac cccgtcccaa aagaggcggg 1290
 tttaggcta atagagaga ctaatggata caactaaaag ttatttaaat attaaatta 1350
 taaaataac tttaaaagag ttggcgaatg acttttgaat aggggtttgta gaagatgct 1410
 ctct cctgt ttgttcacat gtattgtatt aggttaagct ctactagggt aatgaaggct 1470
 ctactttca ctttttaaaa gtggacaaaa gagtgtgatt ttctttttcc aaaaattcct 1530
 gagtataag acgtgaggt catgttttg agcctatgca ctgtacacaa agggaaaaac 1590
 ctatcactt ggatcactt gccattgat tccagcctct gacatgctct ttgatttgt 1650
 aaatctaaa ttgabttaa aggcactag aaactagtaa ttaagtctct taatggactg 1710
 agtaacaca tacttgcctg gctagaatgt ttgttgatgt atgagtttag attaacactc 1770
 aaaaacata ggacagatgt acatagaagg ttgctactca ttgtatttg atgatttcat 1830
 taacaggtaa ataaaaatta ataaaaaagg 1860

<210> 90
 <211> 783
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (245)...(706)

<400> 90
 acacaccag ttggtctct ggagtcggcg ttggggaagg ggggaccggg gtttgaatcc 60
 tggcctctg gtgtggtgg gcttttcc acagaactct ggctcagtg ttcccggcct 120
 gggaaagtgg gactggcct ggtacctggc tccagagctg caccacagagg cgtacagccc 180
 ggtgcgggaa cggggcgggg ttggcgcaac taagggccac ggtccctgac cggcctgccc 240
 caag atg act atc cac atc ctg atc ctg ctg ctg ctg gcc ttc 286
 Met Thr Ile His Ile Leu Ile Leu Leu Leu Leu Ala Phe
 1 5 10
 tcc gcc caa ggg gac ctg gac act gca gcc agt cga ggc cag cac cag 354
 Ser Ala Gln Gly Asp Leu Asp Thr Ala Ala Arg Arg Gly Gln His Gln
 15 20 25 30
 gtc cct cag cac agc ggg cac gtc tgc tac ctg ggc gta tgc cgg aac 382
 Val Pro Gln His Arg Gly His Val Cys Tyr Leu Gly Val Cys Arg Thr
 35 40 45

cac cgc ctg gag gag atc ata tac tgg att cgc tgt ctc cac caa gga 430
 His Arg Leu Ala Glu Ile Ile Tyr Trp Ile Arg Cys Leu His Gln Gly
 50 55 60
 gcc ctc ggg gaa gcc cag cca cga gcc cca gga ccc cta cag cta tgg 478
 Ala Leu Gly Glu Gly Gln Pro Arg Ala Pro Gly Pro Leu Gln Leu Trp
 65 70 75
 ggc cag cag atg gag cga gga gga age cag gct cgg ttc cca gga ttc 526
 Ala Pro Pro Val Ala Arg Gly Gly Ser Pro Ala Arg Phe Pro Gly Phe
 80 85 90
 cgg cct gca gag agg ggg cta gag cag tgc cca gct cgg tgg gtg acc 574
 Arg Pro Ala Ala Arg Gly Leu Ala Gln Cys Pro Ala Arg Trp Val Thr
 95 100 105 110
 tgg ggc acg gct cgt ccc ctc ctc ggc ttc agt tgg cct atc tgt atg 622
 Ser Gly Thr Ala Arg Pro Leu Leu Gly Phe Ser Leu Pro Ile Cys Met
 115 120 125
 ttg gag ctt cta ctc cac att tct tct ccc cta act cca gcc cct gaa 670
 Leu Glu Leu Leu Leu His Ile Ser Ser Pro Leu Thr Pro Ala Pro Glu
 130 135 140
 acc gtc ttc ccc agt ccc tcc cag gcc tgc gac taggttgac ctagaag 720
 Thr Val Phe Pro Ser Pro Ser Pro Gly Cys Asp
 145 150
 caaacgggag cagggtgggc gaagaaact gacgcacaga gccgaataaa caagagttcc 780
 gtg 783

<210> 91

<211> 103

<212> PRT

<213> Homo sapiens

<400> 91

Met Glu Ala Glu Gln Arg Pro Ala Ala Gly Ala Ser Glu Gly Ala Thr
 1 5 10 15
 Pro Gly Leu Glu Ala Val Pro Pro Val Ala Pro Pro Pro Ala Thr Ala
 20 25 30
 Ala Ser Gly Pro Ile Pro Lys Ser Gly Pro Glu Pro Lys Arg Arg His
 35 40 45
 Leu Gly Thr Leu Leu Gln Pro Thr Val Asn Lys Phe Ser Leu Arg Val
 50 55 60
 Phe Gly Ser His Lys Ala Val Glu Ile Glu Gln Glu Arg Val Lys Ser
 65 70 75 80
 Ala Gly Ala Trp Ile Ile His Pro Tyr Ser Asp Phe Arg Phe Tyr Trp
 85 90 95
 Asp Leu Ile Met Leu Leu Leu Met Val Gly Asn Leu Ile Val Leu Pro
 100 105 110
 Val Gly Ile Thr Phe Phe Lys Glu Glu Asn Ser Pro Pro Trp Ile Val
 115 120 125
 Phe Asn Val Leu Ser Asp Thr Phe Phe Leu Leu Asp Leu Val Leu Asn
 130 135 140
 Phe Arg Thr Gly Ile Val Val Glu Glu Gly Ala Glu Ile Leu Leu Ala
 145 150 155 160
 Pro Arg Ala Ile Arg Thr Arg Tyr Leu Arg Thr Trp Phe Leu Val Asp
 165 170 175
 Leu Ile Ser Ser Ile Pro Val Asp Tyr Ile Phe Leu Val Val Glu Leu
 180 185 190
 Glu Pro Arg Leu Asp Ala Glu Val Tyr Lys Thr Ala Arg Ala Leu Arg
 195 200 205
 Ile Val Arg Phe Thr Lys Ile Leu Ser Leu Leu Arg Leu Leu Arg Leu
 210 215 220
 Ser Arg Leu Ile Arg Tyr Ile His Gln Trp Glu Glu Ile Phe His Met
 225 230 235 240
 Thr Tyr Asp Leu Ala Ser Ala Val Val Arg Ile Phe Asn Leu Ile Gly

			245					250				255	
Met	Met	Leu	Leu	Leu	Cys	His	Trp	Asp	Gly	Cys	Leu	Gln	Phe
			260					265					270
Pro	Met	Leu	Gln	Asp	Phe	Pro	Pro	Asp	Cys	Trp	Val	Ser	Ile
			275					280					285
Met	Val	Val	Arg	Ser	Pro	His	Ser	Ser	Ala	Phe	Pro	Gly	Pro
			290										300

01101-02
 01110-023
 01120-022
 01120- Homo sapiens

Met	Ala	Asp	Pro	His	Gln	Leu	Phe	Asp	Asp	Thr	Ser	Ser	Ala
													15
Arg	Gly	Tyr	Gly	Ala	Gln	Arg	Ala	Pro	Gly	Gly	Leu	Ser	Tyr
													30
Ala	Ser	Pro	Thr	Pro	His	Ala	Ala	Phe	Leu	Ala	Asp	Pro	Val
													45
Met	Ala	Met	Ala	Tyr	Gly	Ser	Ser	Leu	Ala	Ala	Gln	Gly	Lys
													60
Val	Asp	Lys	Asn	Ile	Asp	Arg	Phe	Ile	Pro	Ile	Thr	Lys	Leu
													75
Tyr	Pro	Ala	Val	Asp	Thr	Met	Tyr	Val	Gly	Arg	Lys	Leu	Gly
													90
Phe	Pro	Pro	Tyr	Leu	His	Gln	Asp	Trp	Gln	Val	Gln	Tyr	Gln
													105
Thr	Pro	Val	Ala	Pro	Arg	Phe	Asp	Val	Asn	Ala	Pro	Asp	Leu
													120
Pro	Ala	Met	Ala	Phe	Ile	Thr	Tyr	Val	Leu	Val	Ala	Gly	Leu
													135
Gly	Thr	Gln	Asp	Arg	Phe	Ser	Pro	Asp	Leu	Leu	Gly	Leu	Gln
													150
Ser	Ala	Leu	Ala	Trp	Leu	Thr	Leu	Gln	Val	Leu	Ala	Ile	Leu
													165
Ser	Tyr	Leu	Val	Thr	Val	Asn	Thr	Asp	Leu	Thr	Thr	Ile	Asp
													180
Ala	Phe	Leu	Gly	Tyr	Lys	Tyr	Val	Gly	Met	Ile	Gly	Gly	Val
													195
Gly	Leu	Leu	Phe	Gly	Lys	Ile	Gly	Tyr	Tyr	Leu	Val	Leu	Gly
													210
Lys	Val	Ala	Ile	Phe	Val	Phe	Met	Ile	Arg	Thr	Leu	Arg	Leu
													225
Leu	Ala	Asp	Ala	Ala	Ala	Glu	Gly	Val	Pro	Val	Arg	Gly	Ala
													240
Gln	Leu	Arg	Met	Tyr	Leu	Thr	Met	Ala	Val	Ala	Ala	Ala	Gln
													255
Leu	Met	Tyr	Trp	Leu	Thr	Phe	His	Leu	Val	Arg			
													270

01110-03
 01110-013
 01120-022
 01120- Homo sapiens

Met	Ala	Gly	Lys	Gly	Ser	Ser	Gly	Arg	Arg	Pro	Leu	Leu	Gly
													15
Leu	Val	Ala	Val	Ala	Thr	Val	His	Leu	Val	Ile	Cys	Pro	Tyr
													30

Val Glu Glu Ser Phe Asn Leu Gln Ala Thr His Asp Leu Leu Tyr His
35 40 45
Trp Gln Asp Leu Glu Gln Tyr Asp His Leu Glu Pro Pro Gly Val Val
50 55 60
Pro Arg Thr Phe Leu Gly Pro Val Val Ile Ala Val Phe Ser Ser Pro
65 70 75 80
Ala Val Tyr Val Leu Ser Leu Leu Glu Met Ser Lys Phe Tyr Ser Gln
85 90 95
Leu Ile Val Arg Gly Val Leu Gly Leu Gly Val Ile Phe Gly Leu Trp
100 105 110
Thr Leu Gln Lys Glu Val Arg Arg His Phe Gly Ala Met Val Ala Thr
115 120 125
Met Phe Cys Trp Val Thr Ala Met Gln Phe His Leu Met Phe Tyr Cys
130 135 140
Thr Arg Thr Leu Pro Asn Val Leu Ala Leu Pro Val Val Leu Leu Ala
145 150 155 160
Leu Ala Ala Trp Leu Arg His Glu Trp Ala Arg Phe Ile Trp Leu Ser
165 170 175
Ala Phe Ala Ile Ile Val Phe Arg Val Glu Leu Cys Leu Phe Leu Gly
180 185 190
Leu Leu Leu Leu Leu Ala Leu Gly Asn Arg Lys Val Ser Val Val Arg
195 200 205
Ala Leu Arg His Ala Val Pro Ala Gly Ile Leu Cys Leu Gly Leu Thr
210 215 220
Val Ala Val Asp Ser Tyr Phe Trp Arg Gln Leu Thr Trp Pro Glu Gly
225 230 235 240
Lys Val Leu Trp Tyr Asn Thr Val Leu Asn Lys Ser Ser Asn Trp Gly
245 250 255
Thr Ser Pro Leu Leu Trp Tyr Phe Tyr Ser Ala Leu Pro Arg Gly Leu
260 265 270
Gly Cys Ser Leu Leu Phe Ile Pro Leu Gly Leu Val Asp Arg Arg Thr
275 280 285
His Ala Pro Thr Val Leu Ala Leu Gly Phe Met Ala Leu Tyr Ser Leu
290 295 300
Leu Pro His Lys Gln Leu Arg Phe Ile Ile Tyr Ala Phe Pro Met Leu
305 310 315 320
Asn Ile Thr Ala Ala Arg Gly Cys Ser Tyr Leu Leu Asn Asn Tyr Lys
325 330 335
Lys Ser Trp Leu Tyr Lys Ala Gly Ser Leu Leu Val Ile Gly His Leu
340 345 350
Val Val Asn Ala Ala Tyr Ser Ala Thr Ala Leu Tyr Val Ser His Phe
355 360 365
Asn Tyr Pro Gly Gly Val Ala Met Gln Arg Leu His Gln Leu Val Pro
370 375 380
Pro Gln Thr Asp Val Leu Leu His Ile Asp Val Ala Ala Ala Gln Thr
385 390 395 400
Gly Val Ser Arg Phe Leu Gln Val Asn Ser Ala Trp Arg Tyr Asp Lys
405 410 415
Arg Glu Asp Val Gln Pro Gly Thr Gly Met Leu Ala Tyr Thr His Ile
420 425 430
Leu Met Glu Ala Ala Pro Gly Leu Leu Ala Leu Tyr Arg Asp Thr His
435 440 445
Arg Val Leu Ala Ser Val Val Gly Thr Thr Gly Val Ser Leu Asn Leu
450 455 460
Thr Gln Leu Pro Pro Phe Asn Val His Leu Gln Thr Lys Leu Val Leu
465 470 475 480
Leu Glu Arg Leu Pro Arg Pro Ser
485

<210> 94
<211> 152

<212> FRT
<213> Homo sapiens

<400> 94

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Met Trp Pro Pro Asp Pro Asp Pro Asp Pro Asp Pro Glu Pro Ala Gly
 1           5           10           15
Gly Ser Arg Pro Gly Pro Ala Val Pro Gly Leu Arg Ala Leu Leu Pro
          20           25           30
Ala Arg Ala Phe Leu Cys Ser Leu Lys Gly Arg Leu Leu Ala Glu
          35           40           45
Ser Gly Leu Ser Phe Ile Thr Phe Ile Cys Tyr Val Ala Ser Ser Ala
          50           55           60
Ser Ala Phe Leu Thr Ala Pro Leu Leu Glu Phe Leu Leu Ala Leu Tyr
          65           70           75           80
Phe Leu Phe Ala Asp Ala Met Gln Leu Asn Asp Lys Trp Gln Gly Leu
          85           90           95
Cys Trp Pro Met Met Asp Phe Leu Arg Cys Val Thr Ala Ala Leu Ile
          100           105           110
Tyr Phe Ala Ile Ser Ile Thr Ala Ile Ala Lys Tyr Ser Asp Gly Ala
          115           120           125
Ser Lys Ala Ala Gly Val Phe Gly Phe Phe Ala Thr Ile Val Phe Ala
          130           135           140
Thr Asp Phe Tyr Leu Ile Phe Asn Asp Val Ala Lys Phe Leu Lys Gln
          145           150           155           160
Gly Asp Ser Ala Asp Glu Thr Thr Ala His Lys Thr Glu Glu Glu Asn
          165           170           175
Ser Asp Ser Asp Ser Asp
          180

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<210> 95
<211> 184
<212> FRT
<213> Homo sapiens

<400> 95

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Met Asp Gly Leu Arg Gln Arg Val Glu His Phe Leu Glu Gln Arg Asn
 1           5           10           15
Leu Val Thr Glu Val Leu Gly Ala Leu Glu Ala Lys Thr Gly Val Glu
          20           25           30
Lys Arg Tyr Leu Ala Ala Gly Ala Val Thr Leu Leu Ser Leu Tyr Leu
          35           40           45
Leu Phe Gly Tyr Gly Ala Ser Leu Leu Cys Asn Leu Ile Gly Phe Val
          50           55           60
Tyr Pro Ala Tyr Ala Ser Ile Lys Ala Ile Glu Ser Pro Ser Lys Asp
          65           70           75           80
Asp Asp Thr Val Trp Leu Thr Tyr Trp Val Val Tyr Ala Leu Phe Gly
          85           90           95
Leu Ala Glu Phe Phe Ser Asp Leu Leu Leu Ser Trp Phe Pro Phe Tyr
          100           105           110
Tyr Val Gly Lys Cys Ala Phe Leu Leu Phe Cys Met Ala Pro Arg Pro
          115           120           125
Trp Asn Gly Ala Leu Met Leu Tyr Gln Arg Val Val Arg Pro Leu Phe
          130           135           140
Leu Arg His His Gly Ala Val Asp Arg Ile Met Asn Asp Leu Ser Gly
          145           150           155           160
Arg Ala Leu Asp Ala Ala Ala Gly Ile Thr Arg Asn Val Lys Pro Ser
          165           170           175
Gln Thr Pro Gln Pro Lys Asp Lys
          180

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<210> 96

<211> 140
 <212> PFT
 <213> Homo sapiens

<400> 96
 Met Ser Arg Phe Leu Asn Val Leu Arg Ser Trp Leu Val Met Val Ser
 1 5 10 15
 Ile Ile Ala Met Gly Asn Thr Leu Gln Ser Phe Arg Asp His Thr Phe
 20 25 30
 Leu Tyr Glu Lys Leu Tyr Thr Gly Lys Pro Asn Leu Val Asn Gly Leu
 35 40 45
 Gln Ala Arg Thr Pro Gly Ile Trp Thr Leu Leu Ser Ser Val Ile Arg
 50 55 60
 Cys Leu Cys Ala Ile Asp Ile His Asn Lys Thr Leu Tyr His Ile Thr
 65 70 75 80
 Leu Trp Thr Phe Leu Leu Ala Leu Gly His Phe Leu Ser Glu Leu Phe
 85 90 95
 Val Tyr Gly Thr Ala Ala Pro Thr Ile Gly Val Leu Ala Pro Leu Met
 100 105 110
 Val Ala Ser Phe Ser Ile Leu Gly Met Leu Val Gly Leu Arg Tyr Leu
 115 120 125
 Leu Val Glu Pro Val Ser Arg Gln Lys Lys Arg Asn
 130 135 140

<410> 97
 <411> 152
 <412> PFT
 <413> Homo sapiens

<400> 97
 Met Asn Val Gly Val Ala His Ser Glu Val Asn Pro Asn Thr Arg Val
 1 5 10 15
 Met Asn Ser Asn Gly Met Trp Leu Thr Tyr Ala Leu Gly Val Gly Leu
 20 25 30
 Leu His Ile Val Leu Leu Ser Ile Pro Phe Phe Ser Val Pro Val Ala
 35 40 45
 Trp Thr Leu Thr Asn Ile Ile His Asn Leu Gly Met Tyr Val Phe Leu
 50 55 60
 His Ala Val Lys Gly Thr Pro Phe Glu Thr Pro Asp Gln Gly Lys Ala
 65 70 75 80
 Arg Leu Leu Thr His Trp Glu Gln Leu Asp Tyr Gly Val Gln Phe Thr
 85 90 95
 Ser Ser Arg Lys Pro Phe Thr Ile Ser Pro Ile Ile Leu Tyr Phe Leu
 100 105 110
 Ala Ser Phe Tyr Thr Lys Tyr Asp Pro Thr His Phe Ile Leu Asn Thr
 115 120 125
 Ala Ser Leu Leu Ser Val Leu Ile Pro Lys Met Pro Gln Leu His Gly
 130 135 140
 Val Arg Ile Phe Gly Ile Asn Lys Tyr
 145 150

<410> 98
 <411> 173
 <412> PRT
 <413> Homo sapiens

<400> 98
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 Gly Val Leu Ala Gly Thr Met Ala Thr Val Val Ala Ile Thr Val Leu
 20 25 30

Ile Ser Thr Ala Thr Phe Trp Arg Asn Lys Lys Ser Asn Lys Val Leu
 35 40 45
 Pro Met Arg Arg Val Leu Arg Lys Arg Pro Ser Pro Ala Pro Arg Thr
 50 55 60
 Ile Arg Ile Glu Trp Leu Lys Ser Lys Ser Thr Lys Ala Ala Thr Lys
 65 70 75 80
 Phe Met Leu Lys Glu Lys Pro Pro Asn Glu Asn Cys Asn Asn Asn Ser
 85 90 95
 Pro Glu Ser Ser Leu Leu Pro Arg Ala Pro Ala Leu Pro Pro Pro Pro
 100 105 110
 Ser Val Ala Pro Ser Thr Gly Ala Ala Gln Trp Thr Val Pro Thr Val
 115 120 125
 Ser Gly Ser Leu Thr Pro Gln Pro Thr Gln Pro Pro Pro Lys Pro Lys
 130 135 140
 Thr Met Gly Ser Pro Val Gln Ser Thr Leu Ile Ser Glu Leu Lys Gln
 145 150 155 160
 Lys Phe Glu Lys Lys Ser Val His Asn Lys Ala Tyr Phe
 165 170

4101 99
 4111 75
 4121 PRT
 4131 Homo sapiens

4400 99
 Met Ile Gly Asp Ile Leu Leu Phe Gly Thr Leu Leu Met Asn Ala Gly
 1 5 10 15
 Ala Val Leu Asn Phe Lys Leu Lys Lys Asp Thr Gln Gly Phe Gly
 20 25 30
 Leu Glu Ser Arg Glu Pro Ser Thr Gly Asp Asn Ile Arg Glu Phe Leu
 35 40 45
 Leu Ser Leu Arg Tyr Phe Arg Ile Phe Ile Ala Leu Trp Asn Ile Phe
 50 55 60
 Met Met Phe Cys Met Ile Val Leu Phe Gly Ser
 65 70 75

44101 100
 4411 189
 4412 PRT
 4413 Homo sapiens

44001 100
 Met Glu Leu Pro Ala Val Asn Leu Lys Val Ile Leu Leu Gly His Trp
 1 5 10 15
 Leu Leu Thr Thr Trp Gly Cys Ile Val Phe Ser Gly Ser Tyr Ala Trp
 20 25 30
 Ala Asn Phe Thr Ile Leu Ala Leu Gly Val Trp Ala Val Ala Gln Arg
 35 40 45
 Asp Ser Ile Asp Ala Ile Ser Met Phe Leu Gly Gly Leu Leu Ala Thr
 50 55 60
 Ile Phe Leu Asp Ile Val His Ile Ser Ile Phe Tyr Pro Arg Val Ser
 65 70 75 80
 Leu Thr Asp Thr Gly Arg Phe Gly Val Gly Met Ala Ile Leu Ser Leu
 85 90 95
 Leu Leu Lys Pro Leu Ser Cys Cys Phe Val Tyr His Met Tyr Arg Glu
 100 105 110
 Arg Gly Gly Glu Leu Leu Val His Thr Gly Phe Leu Gly Ser Ser Gln
 115 120 125
 Asp Arg Ser Ala Tyr Gln Thr Ile Asp Ser Ala Glu Ala Pro Ala Asp
 130 135 140
 Pro Phe Ala Val Pro Glu Gly Arg Ser Gln Asp Ala Arg Gly Tyr

145

150

155

<210> 101
 <211> 909
 <212> DNA
 <213> Homo sapiens

<400> 101
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 jggcctgagc cttaagaggag gcaccttggg accgtgctcc agcctaagggt caacaagtct 180
 cccttcggg cgttcggcag ccacaaagca gtggaaatcg agcaggagcg ggtgaagtca 240
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 ctgctgctga tggctggggaa cctcatcgtc ctgctgtgg gcatacactt cttcaaggag 360
 jgaactccc cgccttggat cgtcttcaac gtattgtctg atactttctt cctactggat 420
 tgggtgctca acttcagaac gggcatcggt gtggaggagg gtgctgagat cctgctggca 480
 ccgggggcca ccggcacggc ctacctggcg acstggttcc tggttgaact catctcttct 540
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 cacaacacgg ccaggggcct accgactggt cgtttacca agatcctaag cctgctggag 660
 ctgttcggc cctccgcct catccgctac atacaaggt gggaggagat cttcactatg 720
 actatgaa tggcagtgcc tgggttgcg atcttcaac ccattgggat gatgctgtg 780
 ctatgcact gggatggctg tctgcagttc ctgggtgccca tggcagga cttccctccc 840
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 jggccttct 909

<210> 102
 <211> 849
 <212> DNA
 <213> Homo sapiens

<400> 102
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 ctctgggtg accgggtgtc caacatggcc atggcctatg ggagcagcct ggccggcag 180
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 jccactggcc cggacctcta catccagca atggcttca ccactaggt cttgggtggt 420
 jgtctggggc tggggaccca ggataggttc ccccagacc tcttggggct gcaagcagc 480
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 actgtcaaca ccgacctcac caccatcgac ctgggtggcct tottgggcta caaatatgtc 600
 jggatgattg ggggggtcct catgggctgt ctctcgggga agattggcta ctacctggtg 660
 ctgggtgtgt gctgcgtagc catcttctgt tcatgatcc ggacgctgcg gctgaagatc 720
 ctgacagag ccgcagctga gggggtccc gtgctgggg ccgggaacca gctgcgcctg 780
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 ctgttcggg 849

<210> 103
 <211> 1464
 <212> DNA
 <213> Homo sapiens

<400> 103
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 gccactgtac acctggtcat ctgtccctac accaaagtgg aggagagctt caacctgcag 120
 gccacacatg acctgtctca ccactggcaa gacctggagc agtaacacca tottgagttc 180
 ccgggagctg tcccaggac gttcctcggg ccagtggtga tgcagtggt ctccagcccc 240
 gggttttacg tgccttccgt gttagaaatg tccagtttt actctcagct aatagttaga 300
 ggagtgcctt gactcgggt gatttttqga ctctggagct tacaaaagga agtgagacgg 360
 caactcgggg ccactgtggg caccatgttc tgggtgtgga cggcctatca gtccactgt 420
 atgtttctac gacaggtgac atggcaaat gtgctcgcac tgcctgtatg cctgctggac 480

ctcggggcct	ggctggggca	cgagtgggcc	cgttccatct	ggtgtgcagc	cttcggccatc	540
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aaccgaaagg	tttctgtagt	cagagccctt	cggcaaggccg	tcggggcagg	gatcctccgt	660
ttaggaatga	cgggttgctgt	ggactcttat	ttttgggggc	agctcacttg	gcgggaaggga	720
aagggtgttt	ggtacaacac	tgtcttgaa	aaaagctcca	actgggggac	ctcccccgtg	780
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ctctactccc	tcctggccaca	caaggagcta	cgttccatca	tcctatgcctt	ccccatgctc	960
aactcaccgg	ctggccagagg	ctgctccctac	ctgctgaata	actataaaaa	gtcttggtgtg	1020
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cagtggggga	caggcatgct	ggcatacaca	cacatctcca	tggaggcgccg	ccctggggtc	1320
ctgtccctct	acagggaac	acacgggggc	ctggccagcg	tgttggggac	cacaggtgtg	1380
agtrgaac	tgacccaaat	gcaccccttc	aaagtccac	tgcagacaaa	gttggtgtgtt	1440
ctgtgagagc	tcccccggcc	gtcc				1464

<21> 104

<211> 546

<212> DNA

<213> Homo sapiens

<40> 104

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aaacccggcg	ccctgtggcg	caggtcgggt	ctctcattca	tcacttttat	ctgttatgtg	180
gggtctccag	cctctgctct	ctccacagcg	cctctgctgg	agttctctgt	ggccttgta	240
ttctctctcc	ctgatgcctc	gcagctcaat	gacaaagtgg	agggcttctg	ctggcccatg	300
atgtccctcc	cgccgtgtgt	cccgcgggcc	ctcactctat	ttgttatctc	cctccagggc	360
atcctcaagt	actcggatgg	ggcttccaaa	gcggctgggg	tgtttggtct	ctttgtctac	420
atcctgttgg	caactgattt	ctacctgata	tttaacggag	tggccaaaatt	cctcaaaaac	480
gggtctctct	cagatgagac	ccacagccac	aaagacagag	aaagagaattc	cgactcggac	540
tcttcc						546

<21> 106

<211> 552

<212> DNA

<213> Homo sapiens

<40> 106

atgtacggcg	tgaggcagcg	cgtggagcac	ttcctggagc	aaaggaaact	ggtcacccgaa	60
gtgtggggcg	cgtcggagcg	caagacccgg	gtggagaagc	ggatatctgc	tgcaggagcc	120
gtcactctgc	taagcctgta	tctgtctgtc	ggctacggag	cgtctctgct	gtgcaatctc	180
atcctatttg	tgtaccccg	atatgcctca	atcaaaagcta	tcagagagcc	aagcaaggac	240
gacacacatg	ctgtggctcc	ctactgggtg	gtgtacggcc	tgtttgggct	ggccgagttc	300
ttcctggatc	cactcctgtc	ctggttccct	ttctactacg	tgggcaagtg	cgccttccctg	360
ttgtctgtga	tggtccccag	gccttgggac	ggggctctca	tgtgttatca	ggcgtctgtg	420
ggtctgtctg	tcctaaggca	ccacggggcc	gtagacagaa	tcctgaacga	cctcagcggg	480
cgaacctgtg	acgcggcgcc	cggcaataacc	aggaaagtca	agccaaggcca	gaccccgag	540
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<21> 106

<211> 420

<212> DNA

<213> Homo sapiens

<40> 106

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aaagccaaac	ttgtgtaatg	ctcccaagct	cgtacatttg	ggatctgtac	gtgtctctca	180

tcagtgtatc	gctgctcttg	tgcattgac	attcacaaca	agacgtctta	tcacatcaca	240
ctctggacct	tctctcttgc	cctggggcat	ttctctcttg	agttgtttgt	ctatggaaact	300
gcagctccca	cgattggcgt	cctggcacc	ctgatgggtg	caagttcttc	cctcctgggt	360
atgttggtcg	ggctccggtt	tctagaagta	gaaccagtat	ccagacagaa	gaagagaaac	420

<210> 100

<211> 459

<212> DNA

<213> Homo sapiens

<401> 100

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ccctcttcca	gtgttctctg	tgtttggaat	ttacacaaata	ttatacataa	tctgggggatg	180
tacgtatctt	tgcattcagt	gaaagggaaca	cctttcgaaa	ctctctgacca	gggtaaagca	240
aggctccaaa	ctcatctggga	acaaatggac	tatggagtac	agtttacatc	ttcacggaaq	300
cttttcacaa	ttctctcaat	aattctatat	ttctctggcaa	gtttctatct	gaagtatgat	360
ccactcact	ctatctcaaa	cacagcttct	ctctctgagtg	tactaatctc	caaaatgcca	420
caactaatg	gtgtctggat	ctttggaatt	aataagtat			459

<211> 108

<211> 519

<212> DNA

<213> Homo sapiens

<401> 108

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ggacacaggg	ccacctctgt	ggctctcaat	gtctctcaat	ccacagcaac	cttctgggag	120
acaaagagtg	ctaaacaaggc	cctggcaaatg	cgtgggtgtc	tccgcaagcg	gcccagccct	180
ggcccccgc	ccatccgcat	tgagtgggtc	aagtcacaaga	gcaccaaagc	cgtctaccaag	240
ttctgtctca	aagagaaaac	tcccattgag	aactgttaaca	acaacagccc	agaaagctct	300
ctgtctccga	gagctccggc	tctccctcca	ccacccagcg	tggcgcacag	cactggcgga	360
gcccactgga	ccgtgctctc	tgtctctggc	tctctcaatc	cgcagccgac	ccaaaccccg	420
ccaaacccca	aaactatggg	aagcccccgtc	cagtcacactc	tgatctctga	gtctcaagcaa	480
aagtttgaga	agaagagtg	gcacaacaag	gcttacttc			519

<211> 109

<211> 225

<212> DNA

<213> Homo sapiens

<401> 109

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tttaagctga	aaaagaaggga	cacgcagggc	tttggggagg	agtcacaggga	gccacgcaca	120
ggtgacaaca	tccgggaatt	cttctctgag	ctcagatact	ttogaattct	cctcgccttg	180
tggacacatc	ctatgatgtc	ctgcattgatt	gtctgttctg	gctct		225

<211> 110

<211> 477

<212> DNA

<213> Homo sapiens

<401> 110

atgpagctgc	ctgtcttgaa	cctgaaggtg	attctctctag	gtcacttggct	gctgacaacc	60
tggggctgca	ttgtattctc	aggctcttat	gcctggggca	acttcacac	cctggccttg	120
ggcgtgtggg	ctgtggctca	gggggactcc	atcgacgcca	taagcatgtt	tctgggtggc	180
ttgtctggca	ccatcttctc	ggacatctgt	cacatcagca	tcttctacac	gggggtcagc	240
ctcacggaca	cgggcctgct	tggcgtgggc	atggccatcc	tcagcttctc	gctcaagccg	300
ctctctctgt	gcttctgtct	ccacatgtac	ggggagcgcg	ggggtgagct	cctggctccac	360
actggttctc	ttgggtcttc	tcaggacac	gtgtctctac	agacatttga	ctcagcagag	420
ggccctcttg	atctctctgc	agtcacagaa	ggcaggagtc	aagatctctg	aggtctac	477

<210> 111
 <211> 3438
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (121)...(1032)

1400> 111
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 ggggtacctg atggccacag agggctctag gaggcgagc gtgtaagcgg ggtggcgccc 120
 atg gag gca gag cag cgg cgg ggg ggg ggg gcc agc gaa ggg ggg acc 168
 Met Glu Ala Glu Gln Arg Pro Ala Ala Gly Ala Ser Glu Gly Ala Thr
 1 5 10 15
 cct gga ctg gag ggg gtg cct ccc gtt get ccc cgg cct ggg acc ggg 216
 Pro Gly Leu Glu Ala Val Pro Pro Val Ala Pro Pro Pro Ala Thr Ala
 20 25 30
 ggc tca ggt cgg atc ccc aaa tct ggg cct gag cct aag agg agg cac 264
 Ala Ser Gly Pro Ile Pro Lys Ser Gly Pro Glu Pro Lys Arg Arg His
 35 40 45
 att ggg acg ctg ctg cag cct acg gtc aag aag ttc tcc att cgg gtg 312
 Leu Gly Thr Leu Leu Gln Pro Thr Val Asn Lys Phe Ser Leu Arg Val
 50 55 60
 ttc cgc agc cac aaa gca gtg gaa atc gag cag gag cgg gtg aag tca 360
 Phe Gly Ser His Lys Ala Val Glu Ile Gln Gln Glu Arg Val Lys Ser
 65 70 75 80
 ggc ggg gcc tgg atc atc aac ccc tac agc gac ttc cgg ttc tac tgg 408
 Ala Gly Ala Trp Ile Ile His Pro Tyr Ser Asp Phe Arg Phe Tyr Trp
 85 90 95
 gag ctg atc atg ctg ctg ctg atg gtg ggg aac ctg atc gtc ctg cct 456
 Asp Leu Ile Met Leu Leu Leu Met Val Gly Asn Leu Ile Val Leu Pro
 100 105 110
 ggc ggc atc acc ttc ttc aag gag gag aac tcc cgg cct tgg atc atc 504
 Val Gly Ile Thr Phe Phe Lys Glu Glu Asn Ser Pro Pro Trp Ile Val
 115 120 125
 ttc aac gta tgg tct gat acc ttc ttc cta ctg gat ctg gtg ctg aac 552
 Phe Asn Val Leu Ser Asp Thr Phe Phe Leu Leu Asp Leu Val Leu Asn
 130 135 140
 ttc cga acg gcc atc gtc gtg gag gag ggt get gag atc ctg ctg gca 600
 Phe Arg Thr Gly Ile Val Val Glu Glu Gly Ala Glu Ile Leu Leu Ala
 145 150 155 160
 gag cgg gcc atc cgc acg cgc tac ctg cgc acc tgg ttc ctg gtt gac 648
 Pro Arg Ala Ile Arg Thr Arg Tyr Leu Arg Thr Trp Phe Leu Val Asp
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Pro Met Leu Gln Asp Phe Pro Pro Asp Cys Trp Val Ser Ile Asn His				
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Met Ser Arg Phe Leu Asn Val Leu Arg Ser Trp Leu
1 5 10
gtc atg gtg tcc atc ata gcc atg ggg aac acg ctg cag agc ttc cga 216
Val Met Val Ser Ile Ile Ala Met Gly Asn Thr Leu Gln Ser Phe Arg
15 20 25
acc taa act ttt ctc tat gaa aag ctc tac act ggc aag cca aac ctt 264
Asp His Thr Phe Leu Tyr Gln Lys Leu Tyr Thr Gly Lys Pro Asn Leu
30 35 40
gtg aat ggc ctc caa gct cgg acc ttt ggg atc tgg acg ctg ctc tca 312
Val Asn Gly Leu Gln Ala Arg Thr Phe Gly Ile Trp Thr Leu Leu Ser
45 50 55 60
tca ctg att cgc tgc ctc tgt gcc att gag att cac aac aag acg ctc 360
Ser Val Ile Arg Cys Leu Cys Ala Ile Asp Ile His Asn Lys Thr Leu
65 70 75
tat taa atc aca ctc tgg acc ttc ctc ctc gcc ctg ggg cat ctc ctc 408
Tyr His Ile Thr Leu Trp Thr Phe Leu Leu Ala Leu Gly His Phe Leu
80 85 90
ccc aag tgg ttt gtc tat gga act gga gct ccc acg att ggc gtc ctg 456
Ser Glu Leu Phe Val Tyr Gly Thr Ala Ala Pro Thr Ile Gly Val Leu
95 100 105
gca ccc ctg atg gtg gca agt ttc tcc atc ctg ggt atg ctg gtc ggg 504
Ala Pro Leu Met Val Ala Ser Phe Ser Ile Leu Gly Met Leu Val Gly
110 115 120
ctc cgg tat cta gaa gta gaa cca gta tcc aga cag aag aag aga aac 552
Leu Arg Tyr Leu Glu Val Glu Pro Val Ser Arg Gln Lys Lys Arg Asn
125 130 135 140
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<220>

<221> CDS

<222> (183)...(644)

<400> 117

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tttatggata cattaagtca aatataagag tctgaactact tgacacactg gctcgagcaa      180
ac atg aac gtt gga gtt gcs cac agt gaa gtg aat cca aat acc cgt      220
Met Asn Val Gly Val Ala His Ser Glu Val Asn Pro Asn Thr Arg
1 5 10 15
gtc atg aac agc cgg ggt atg tgg ctg aca tat gca ttg gga gtt ggc      270
Val Met Asn Ser Arg Gly Met Trp Leu Thr Tyr Ala Leu Gly Val Gly
20 25 30
tgg ctt cat att gtc tta ctg agc att cca ttc ttc agt gtt cct gtt      320
Leu Leu His Ile Val Leu Leu Ser Ile Pro Phe Phe Ser Val Pro Val
35 40 45
gct tgg act tta aca aat att ata cat aat ctg ggg atg tac gta ttt      370
Ala Trp Thr Leu Thr Asn Ile Ile His Asn Leu Gly Met Tyr Val Phe
50 55 60
tgg cat gca gtg aaa gga aca cct ttc gaa act cct gac cag ggt aaa      410
Leu His Ala Val Lys Gly Thr Pro Phe Glu Thr Pro Asp Gln Gly Lys
65 70 75
gca agc ctg cta act cat tgg gaa caa ctg gac tat gga gta cag ttt      460
Ala Arg Leu Leu Thr His Trp Glu Gln Leu Asp Tyr Gly Val Gln Phe
80 85 90 95
aca tat taa cga aag ttt ttc aca att tct cca ata att cta tat ttt      510
Thr Ser Ser Arg Lys Phe Phe Thr Ile Ser Pro Ile Ile Leu Tyr Ile
100 105 110
atg gca agt ttc tat acg aag tat gat cca act cac ttc atc cta aac      560
Leu Ala Ser Phe Tyr Thr Lys Tyr Asp Pro Thr His Phe Ile Leu Asn
115 120 125
aca cct tct ctg ctg agt gta cta att cca aaa atg cca caa cta cat      610
Thr Ala Ser Leu Leu Ser Val Leu Ile Pro Lys Met Pro Gln Leu His
130 135 140
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Gly Val Arg Ile Phe Gly Ile Asn Lys Tyr
145 150
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<211> 3489

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

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<400> 118

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ccatttgggt taaggaagca tatactact ctgtactcca tggaccaggt gggaacagct      180
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Met Ala Ala

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gcc ggc acc atg gcc aac gtc gtg ggc atc act gtc ctc atc acc acc	233
Ala Gly Thr Met Ala Thr Val Val Ala Ile Thr Val Leu Ile Ser Thr	
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Ala Thr Phe Trp Arg Asn Lys Lys Ser Asn Lys Val Leu Pro Met Arg	
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cag gta ctc cgc aag cgg ccc agt ctt gcc ccc cgc acc atc ggc att	235
Arg Val Leu Arg Lys Arg Pro Ser Pro Ala Pro Arg Thr Ile Arg Ile	
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Glu Trp Leu Lys Ser Lys Ser Thr Lys Ala Ala Thr Lys Phe Met Leu	
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aaa gaa aaa cct ccc act gag aac tct aac aac aac ggc cca aaa agc	237
Lys Glu Lys Pro Pro Asn Glu Asn Cys Asn Asn Ser Pro Glu Ser	
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Ser Leu Leu Pro Arg Ala Pro Ala Leu Pro Pro Pro Pro Ser Val Ala	
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Pro Ser Thr Gly Ala Ala Gln Trp Thr Val Pro Thr Val Ser Gly Ser	
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ctc act cag cag cgc aac cca acc cgc cca aaa acc aac act atg gga	240
Leu Phe Pro Glu Pro Thr Gln Pro Pro Pro Lys Pro Lys Thr Met Gly	
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<120>
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Thr Leu Leu Met Asn Ala Gly Ala Val Leu Asn Phe Lys Leu Lys Lys	
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Lys Asp Thr Gln Gly Phe Gly Glu Glu Ser Arg Glu Pro Ser Thr Gly	
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gac aac atc cgg gaa ttc ctg ctg agc ctg aga tac ttc cga atc ttc	135
Asp Asn Ile Arg Glu Phe Leu Leu Ser Leu Arg Tyr Phe Arg Ile Phe	
45 50 55	
atc acc ctg tgg aac atc ttc atg atg ttc tgc atg att ctg ctg ttc	243
Ile Ala Leu Trp Asn Ile Phe Met Met Phe Cys Met Ile Val Leu Phe	
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Gly Ser	
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1210 120
1211 1133
1212 DNA
1213 Homo sapiens

1210
1211 CDS
1212 (547... (547)

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His Trp Leu Leu Thr Thr Trp Gly Cys Ile Val Phe Ser Gly Ser Tyr
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Ala Trp Ala Asn Phe Thr Ile Leu Ala Leu Gly Val Trp Ala Val Ala
35 40 45
aac tgg gac tcc atc gac ggc atc aac atg ttc ctg ggt ggc ctg ctg 210
His Arg Asp Ser Ile Asp Ala Ile Ser Met Phe Leu Gly Gly Leu Leu
50 55 60
gta acc atc ttc ctg gac atc gta cac atc agc atc ttc tcc ccc cgg 300
Ala Thr Ile Phe Leu Asp Ile Val His Ile Ser Ile Phe Tyr Pro Arg
65 70 75
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Ala Ser Leu Thr Asp Thr Gly Arg Phe Gly Val Gly Met Ala Ile Leu
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aac ttc ctg ctg aag ccc ctg ttc ttc ttc ttc ggc tcc cac atg cac 320
Ser Leu Leu Leu Lys Pro Leu Ser Cys Cys Phe Val Tyr His Met Tyr
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Arg His Arg Gly Gly Glu Leu Leu Val His Thr Gly Phe Leu Gly Ser
115 120 125
gag gag ggc ggc ggt ggc tcc cac aac acc gac tcc gaa gag ggc ccc 340
Ser Gln Asp Arg Ser Ala Tyr Gln Thr Ile Asp Ser Ala Glu Ala Pro
130 135 140
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Ala Asp Pro Phe Ala Val Pro Gln Gly Arg Ser Gln Asp Ala Arg Gly
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Tyr

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1210 121
1211 656
1212 PRT
1213 Homo sapiens

1400 121
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Ser Thr Leu Val Pro	Leu Arg Leu Arg His Arg Gln Leu Gly Leu Gln		
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Ala Lys Gly Trp Asn Phe Met	Leu Glu Asp Ser Thr Phe Trp Ile Phe		
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Gly Gly Ser Ile His Tyr Phe Arg Val	Pro Arg Gln Tyr Trp Arg Asp		
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Arg Leu Leu Lys Met	Lys Ala Cys Gly Leu Asn Thr Leu Thr Thr Tyr		
85	90	95	
Val Pro Trp Asn Leu His Glu Pro	Glu Arg Gly Lys Phe Asp Phe Ser		
100	105	110	
Gly Asn Leu Asp Leu Glu Ala Phe Val	Leu Met Ala Ala Glu Ile Gly		
115	120	125	
Leu Trp Val Ile Leu Arg Pro	Gly Pro Tyr Ile Cys Ser Glu Met Asp		
130	135	140	
Leu Gly Gly Leu Pro Ser Trp	Leu Ser Gln Asp Pro Gly Met Arg Leu		
145	150	155	160
Arg Thr Thr Tyr Lys Gly Phe Thr	Glu Ala Val Asp Leu Tyr Phe Asp		
165	170	175	
His Leu Met Ser Arg Val Val	Pro Leu Gln Tyr Lys Arg Gly Gly Pro		
180	185	190	
Ile Ile Ala Val Gln Val Glu Asn	Glu Tyr Gly Ser Tyr Asn Lys Asp		
195	200	205	
Pro Ala Tyr Met Pro Tyr Val	Lys Lys Ala Leu Glu Asp Arg Gly Ile		
210	215	220	
Val Glu Leu Leu Leu Thr Ser	Asp Asn Lys Asp Gly Leu Ser Lys Gly		
225	230	235	240
Ile Val Gln Gly Val Leu Ala Thr	Ile Asn Leu Gln Ser Thr His Glu		
245	250	255	
Leu Glu Leu Leu Thr Thr Phe	Leu Phe Asn Val Gln Gly Thr Gln Pro		
260	265	270	
Lys Met Val Met Glu Tyr Trp	Thr Gly Trp Phe Asp Ser Trp Gly Gly		
275	280	285	
Pro His Asn Ile Leu Asp Ser	Ser Glu Val Leu Lys Thr Val Ser Ala		
290	295	300	
Ile Val Asp Ala Gly Ser Ser	Ile Asn Leu Tyr Met Phe His Gly Gly		
305	310	315	320
Thr Asn Phe Gly Phe Met Asn	Gly Ala Met His Phe His Asp Tyr Lys		
325	330	335	
Ser Asp Val Thr Ser Tyr Asp	Tyr Asp Ala Val Leu Thr Glu Ala Gly		
340	345	350	
Asp Tyr Thr Ala Lys Tyr Met	Lys Leu Arg Asp Phe Phe Gly Ser Ile		
355	360	365	
Ser Gly Ile Pro Leu Pro Pro	Pro Pro Asp Leu Leu Pro Lys Met Pro		
370	375	380	
Tyr Glu Pro Leu Thr Pro Val	Leu Tyr Leu Ser Leu Trp Asp Ala Leu		
385	390	395	400
Lys Tyr Leu Gly Glu Pro Ile	Lys Ser Glu Lys Pro Ile Asn Met Glu		
405	410	415	
Asn Leu Pro Val Asn Gly Gly	Asn Gly Gln Ser Phe Gly Tyr Ile Leu		
420	425	430	
Tyr Glu Thr Ser Ile Thr Ser	Ser Gly Ile Leu Ser Gly His Val His		
435	440	445	
Asp Arg Gly Gln Val Phe Val	Asn Thr Val Ser Ile Gly Phe Leu Asp		
450	455	460	
Tyr Lys Thr Thr Lys Ile Ala	Val Pro Leu Ile Gln Gly Tyr Thr Val		
465	470	475	480
Leu Arg Ile Leu Val Glu Asn	Arg Gly Arg Val Asn Tyr Gly Glu Asn		
485	490	495	

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 515 520 525
 Phe Phe Gln Arg Phe Gly Leu Asp Lys Trp Ser Ser Leu Pro Glu Thr
 530 535 540
 Pro Thr Leu Pro Ala Phe Phe Leu Gly Ser Leu Ser Ile Ser Ser Thr
 545 550 555 560
 Pro Cys Asp Thr Phe Leu Lys Leu Glu Gly Trp Glu Lys Gly Val Val
 565 570 575
 Phe Ile Asn Gly Gln Asn Leu Gly Arg Tyr Trp Asn Ile Gly Pro Gln
 580 585 590
 Lys Thr Leu Tyr Leu Pro Gly Pro Trp Leu Ser Ser Gly Ile Asn Gln
 595 600 605
 Val Ile Val Phe Glu Glu Thr Met Ala Gly Pro Ala Leu Gln Phe Thr
 610 615 620
 Glu Thr Pro His Leu Gly Arg Asn Gln Tyr Ile Lys
 625 630 635

<110> 121
 <111> 313
 <112> PRT
 <113> Homo sapiens

<110> 121
 Met Val Glu Leu Met Phe Pro Leu Leu Leu Leu Leu Leu Pro Phe Leu
 1 10 13
 Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser Gly Val
 2 25 30
 Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Val Thr Gly
 35 40 45
 Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg
 50 55 60
 Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu
 65 70 75 80
 Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val
 85 90 95
 Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys
 100 105 110
 Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala
 115 120 125
 Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met
 130 135 140
 His Ile Gly Val Asn His Leu Gly His Phe Leu Leu Thr His Leu Leu
 145 150 155 160
 Leu Glu Lys Leu Lys Glu Ser Ala Pro Ser Arg Ile Val Asn Val Ser
 165 170 175
 Ser Leu Ala His His Leu Gly Arg Ile His Phe His Asn Leu Gln Gly
 180 185 190
 Glu Lys Phe Tyr Asn Ala Gly Leu Ala Tyr Cys His Ser Lys Leu Ala
 195 200 205
 Asn Ile Leu Phe Thr Gln Glu Leu Ala Arg Arg Leu Lys Gly Ser Gly
 210 215 220
 Val Thr Thr Tyr Ser Val His Pro Gly Thr Val Gln Ser Glu Leu Val
 225 230 235 240
 Arg His Ser Ser Phe Met Arg Trp Met Trp Trp Leu Phe Ser Phe Phe
 245 250 255
 Ile Lys Thr Pro Gln Gln Gly Ala Gln Thr Ser Leu His Cys Ala Leu
 260 265 270
 Thr Glu Gly Leu Glu Ile Leu Ser Gly Asn His Phe Ser Asp Cys His
 275 280 285

Val Ala Trp Val Ser Ala Gln Ala Arg Asn Glu Thr Ile Ala Arg Arg
 290 295 300
 Leu Trp Asp Val Ser Cys Asp Leu Leu Gly Leu Pro Ile Asp
 305 310 315

<210> 123
 <211> 82
 <212> PRT
 <213> Homo sapiens

<400> 123
 Met Ala Phe Thr Leu Tyr Ser Leu Leu Gln Ala Ala Leu Leu Cys Val
 1 5 10 15
 Asn Ala Ile Ala Val Leu His Glu Glu Arg Phe Leu Lys Asn Ile Gly
 20 25 30
 Trp Gly Thr Asp Gln Gly Ile Gly Gly Phe Gly Glu Glu Pro Gly Ile
 35 40 45
 Lys Ser Gln Leu Met Asn Leu Ile Arg Ser Val Arg Thr Val Met Arg
 50 55 60
 Val Pro Leu Ile Ile Val Asn Ser Ile Ala Ile Val Leu Leu Leu Leu
 65 70 75 80
 Phe Gly

<210> 124
 <211> 247
 <212> PRT
 <213> Homo sapiens

<400> 124
 Met His Leu Ala Arg Leu Val Gly Ser Cys Ser Leu Leu Leu Leu Leu
 1 5 10 15
 Gly Ala Leu Ser Gly Trp Ala Ala Ser Asp Asp Pro Ile Glu Lys Val
 20 25 30
 Ile Gln Gly Ile Asn Arg Gly Leu Ser Asn Ala Glu Arg Glu Val Gly
 35 40 45
 Lys Ala Leu Asp Gly Ile Asn Ser Gly Ile Thr His Ala Gly Arg Glu
 50 55 60
 Val Glu Lys Val Phe Asn Gly Leu Ser Asn Met Gly Ser His Thr Gly
 65 70 75 80
 Lys Glu Leu Asp Lys Gly Val Gln Gly Leu Asn His Gly Met Asp Lys
 85 90 95
 Val Ala His Glu Ile Asn His Gly Ile Gly Gln Ala Gly Lys Glu Ala
 100 105 110
 Glu Lys Leu Gly His Gly Val Asn Asn Ala Ala Gly Gln Ala Gly Lys
 115 120 125
 Glu Ala Asp Lys Ala Val Gln Gly Phe His Thr Gly Val His Gln Ala
 130 135 140
 Gly Lys Glu Ala Glu Lys Leu Gly Gln Gly Val Asn His Ala Ala Asp
 145 150 155 160
 Gln Ala Gly Lys Glu Val Glu Lys Leu Gly Gln Gly Ala His His Ala
 165 170 175
 Ala Gly Gln Ala Gly Lys Glu Leu Gln Asn Ala His Asn Gly Val Asn
 180 185 190
 Gln Ala Ser Lys Glu Ala Asn Gln Leu Leu Asn Gly Asn His Gln Ser
 195 200 205
 Gly Ser Ser Ser His Gln Gly Gly Ala Thr Thr Thr Pro Leu Ala Ser
 210 215 220
 Gly Ala Ser Val Asn Thr Pro Phe Ile Asn Leu Pro Ala Leu Trp Arg
 225 230 235 240
 Ser Val Ala Asn Ile Met Pro

245

<210> 125
 <211> 206
 <212> PRT
 <213> Homo sapiens

<400> 125

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Met Ala Pro Ser His Leu Ser Val Arg Glu Met Arg Glu Asp Glu Lys
 1           5           10           15
Pro Leu Val Leu Glu Met Leu Lys Ala Gly Val Lys Asp Thr Glu Asn
           20           25           30
Arg Val Ala Leu His Ala Leu Thr Arg Pro Pro Ala Leu Leu Leu Leu
           35           40           45
Ala Ala Ala Ser Ser Gly Leu Arg Phe Val Leu Ala Ser Phe Ala Leu
           50           55           60
Ala Leu Leu Leu Pro Val Phe Leu Ala Val Ala Ala Val Lys Leu Gly
           65           70           75           80
Leu Arg Ala Arg Trp Gly Ser Leu Pro Pro Pro Gly Gly Leu Gly Gly
           85           90           95
Pro Trp Val Ala Val Arg Gly Ser Gly Asp Val Cys Gly Val Leu Ala
           100          105          110
Leu Ala Pro Gly Thr Asn Ala Gly Asp Gly Ala Arg Val Thr Arg Leu
           115          120          125
Ser Val Ser Arg Trp His Arg Arg Arg Gly Val Gly Arg Arg Leu Leu
           130          135          140
Ala Phe Ala Glu Ala Arg Ala Arg Ala Trp Ala Gly Gly Met Gly Glu
           145          150          155          160
Pro Arg Ala Arg Leu Val Val Pro Val Ala Val Ala Ala Trp Gly Val
           165          170          175
Gly Gly Met Leu Glu Gly Cys Gly Tyr Gln Ala Glu Gly Gly Trp Gly
           180          185          190          195
Cys Leu Gly Tyr Thr Leu Val Arg Glu Phe Ser Lys Asp Leu
           195          200          205

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<210> 126
 <211> 432
 <212> PRT
 <213> Homo sapiens

<400> 126

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Met Asp Ala Arg Trp Trp Ala Val Val Val Leu Ala Ala Phe Pro Ser
 1           5           10           15
Leu Gly Ala Gly Gly Glu Thr Pro Glu Ala Pro Pro Glu Ser Trp Thr
           20           25           30
Gln Leu Trp Phe Phe Arg Phe Val Val Asn Ala Ala Gly Tyr Ala Ser
           35           40           45
Phe Met Val Pro Gly Tyr Leu Leu Val Gln Tyr Phe Arg Arg Lys Asn
           50           55           60
Tyr Leu Glu Thr Gly Arg Gly Leu Cys Phe Pro Leu Val Lys Ala Cys
           65           70           75           80
Val Phe Gly Asn Glu Pro Lys Ala Ser Asp Glu Val Pro Leu Ala Pro
           85           90           95
Arg Thr Glu Ala Ala Glu Thr Thr Pro Met Trp Gln Ala Leu Lys Leu
           100          105          110
Leu Phe Cys Ala Thr Gly Leu Gln Val Ser Tyr Leu Thr Trp Gly Val
           115          120          125
Leu Gln Glu Arg Val Met Thr Arg Ser Tyr Gly Ala Thr Ala Thr Ser
           130          135          140
Pro Gly Glu Arg Phe Thr Asp Ser Gln Phe Leu Val Leu Met Asn Arg
           145          150          155          160

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Val Leu Ala Leu Ile Val Ala Gly Leu Ser Cys Val Leu Cys Lys Gln
 155 170 175
 Pro Arg His Gly Ala Pro Met Tyr Arg Tyr Ser Phe Ala Ser Leu Ser
 180 185 190
 Asn Val Leu Ser Ser Trp Cys Gln Tyr Glu Ala Leu Lys Phe Val Ser
 195 200 205
 Phe Pro Thr Gln Val Leu Ala Lys Ala Ser Lys Val Ile Pro Val Met
 210 215 220
 Leu Met Gly Lys Leu Val Ser Arg Arg Ser Tyr Glu His Trp Glu Tyr
 225 230 235 240
 Leu Thr Ala Thr Leu Ile Ser Ile Gly Val Ser Met Phe Leu Leu Ser
 245 250 255
 Ser Gly Pro Gln Pro Arg Ser Ser Pro Ala Thr Thr Leu Ser Gly Leu
 260 265 270
 Ile Leu Leu Ala Gly Tyr Ile Ala Phe Asp Ser Phe Thr Ser Asn Trp
 275 280 285
 Gln Asp Ala Leu Phe Ala Tyr Lys Met Ser Ser Val Gln Met Met Pro
 290 295 300
 Gly Val Asn Phe Phe Ser Cys Leu Phe Thr Val Gly Ser Leu Leu Gln
 305 310 315 320
 Gln Gly Ala Leu Leu Glu Gly Thr Arg Phe Met Gly Arg His Ser Gln
 325 330 335 340
 Phe Ala Ala His Ala Leu Leu Leu Ser Ile Cys Ser Ala Cys Gly Gln
 345 350 355
 Leu Phe Ile Phe Tyr Thr Ile Gly Gln Phe Gly Ala Ala Val Phe Thr
 360 365 370
 Leu Ile Met Phe Leu Arg His Ala Phe Ala Ile Leu Leu Ser Cys Leu
 375 380 385
 Leu Tyr Gly His Thr Val Thr Val Val Gly Gly Leu Gly Val Ala Val
 390 395 400
 Val Phe Ala Ala Leu Leu Leu Arg Val Tyr Ala Arg Gly Arg Leu Lys
 405 410 415
 Ala Arg Gly Lys Lys Ala Val Pro Val Gln Ser Pro Val Gln Lys Val
 420 425 430

4110-127
 411-306
 412-PRT
 413-Homo sapiens

4400-127
 Met Gly His Asn Thr Leu Val Leu Pro Trp Val Leu Leu Thr Leu Cys
 1 5 10
 Val Phe Ala Gly Thr Pro Glu Val Trp Val Gln Val Arg Met Gln Ala
 15 20 25
 Thr Glu Leu Ser Ser Phe Thr Ile Arg Cys Gly Phe Leu Gly Ser Gly
 30 35 40
 Ser Ile Ser Leu Val Thr Val Ser Trp Gly Lys Pro Asp Gly Ala Gly
 45 50 55 60
 Gly Thr Thr Leu Ala Val Leu His Pro Glu Arg Gly Ile Arg Gln Trp
 65 70 75
 Ala Pro Ala Arg Gln Ala Arg Trp Glu Thr Gln Ser Ser Ile Ser Leu
 80 85 90 95
 Ile Leu Gln Gly Ser Gly Ala Ser Ser Pro Cys Ala Asn Thr Thr Phe
 100 105 110
 Cys Lys Lys Phe Ala Ser Phe Pro Glu Gly Ser Trp Glu Ala Cys Gly
 115 120 125
 Ser Leu Pro Pro Ser Ser Asp Pro Gly Leu Ser Ala Pro Pro Thr Pro
 130 135 140
 Ala Pro Ile Leu Arg Ala Asp Leu Ala Gly Ile Leu Gly Val Ser Gly
 145 150 155 160

Val Leu Leu Phe Gly Cys Val Tyr Leu Leu His Leu Leu Arg Arg His
165 170 175
Lys His Arg Pro Ala Pro Arg Leu Gln Pro Ser Arg Thr Ser Pro Gln
180 185 190
Ala Pro Arg Ala Arg Ala Trp Ala Pro Ser Gln Ala Ser Gln Ala Ala
195 200 205
Leu His Val Pro Tyr Ala Thr Ile Asn Thr Ser Cys Arg Pro Ala Thr
210 215 220
Leu Asp Thr Ala His Pro His Gly Gly Pro Ser Trp Trp Ala Ser Leu
225 230 235 240
Pro Thr His Ala Ala His Arg Pro Gln Gly Pro Ala Ala Trp Ala Ser
245 250 255
Thr Pro Ile Pro Ala Arg Gly Ser Phe Val Ser Val Glu Asn Gly Leu
260 265 270
Tyr Ala Gln Ala Gly Glu Arg Pro Pro His Thr Gly Pro Gly Leu Thr
275 280 285
Leu Phe Pro Asp Pro Arg Gly Pro Arg Ala Met Glu Gly Pro Leu Gly
290 295 300
Val Arg
305

<210: 128
<211: 555
<212: PRT
<213: Homo sapiens

<400: 128
Met Gln Ser Cys Glu Ser Ser Gly Asp Ser Ala Asp Asp Pro Leu Ser
1 10 15
Arg Gly Leu Arg Arg Arg Gly Gln Pro Arg Val Val Val Ile Gly Ala
20 25 30
Gly Leu Ala Gly Leu Ala Ala Ala Lys Ala Leu Leu Glu Gln Gly Phe
35 40 45
Thr Asp Val Thr Val Leu Glu Ala Ser Ser His Ile Gly Gly Arg Val
50 55 60
Gln Ser Val Lys Leu Gly His Ala Thr Phe Glu Leu Gly Ala Thr Trp
65 70 75 80
Ile His Gly Ser His Gly Asn Pro Ile Tyr His Leu Ala Glu Ala Asn
85 90 95
Gly Leu Leu Glu Glu Thr Thr Asp Gly Glu Arg Ser Val Gly Arg Ile
100 105 110
Ser Leu Tyr Ser Lys Asn Gly Val Ala Cys Tyr Leu Thr Asn His Gly
115 120 125
Arg Arg Ile Pro Lys Asp Val Val Glu Glu Phe Ser Asp Leu Tyr Asn
130 135 140
Glu Val Tyr Asn Leu Thr Gln Gln Phe Phe Arg His Asp Lys Pro Val
145 150 155 160
Asn Ala Glu Ser Gln Asn Ser Val Gly Val Phe Thr Arg Glu Glu Val
165 170 175
Arg Asn Arg Ile Arg Asn Asp Pro Asp Asp Pro Glu Ala Thr Lys Arg
180 185 190
Leu Lys Leu Ala Met Ile Gln Gln Tyr Leu Lys Val Glu Ser Cys Glu
195 200 205
Ser Ser Ser His Ser Met Asp Glu Val Ser Leu Ser Ala Phe Gly Glu
210 215 220
Trp Thr Glu Ile Pro Gly Ala His His Ile Ile Pro Ser Gly Phe Met
225 230 235 240
Arg Val Val Glu Leu Leu Ala Glu Gly Ile Pro Ala His Val Ile Gln
245 250 255
Leu Gly Lys Pro Val Arg Cys Ile His Trp Asp Gln Ala Ser Ala Arg
260 265 270

Pro Arg Gly Pro Glu Ile Glu Pro Arg Gly Glu Gly Asp His Asn His
 275 281 285
 Asp Thr Gly Glu Gly Gly Gln Gly Gly Glu Glu Pro Arg Gly Gly Arg
 290 295 300
 Trp Asp Glu Asp Glu Gln Trp Ser Val Val Val Glu Cys Glu Asp Cys
 305 310 315 320
 Glu Leu Ile Pro Ala Asp His Val Ile Val Thr Val Ser Leu Gly Val
 325 330 335
 Leu Lys Arg Gln Tyr Thr Ser Phe Phe Arg Pro Gly Leu Pro Thr Glu
 340 345 350
 Lys Val Ala Ala Ile His Arg Leu Gly Ile Gly Thr Thr Asp Lys Ile
 355 360 365
 Phe Leu Glu Phe Glu Glu Pro Phe Trp Gly Pro Glu Cys Asn Ser Leu
 370 375 380
 Gln Phe Val Trp Glu Asp Glu Ala Glu Ser His Thr Leu Thr Tyr Pro
 385 390 395 400
 Pro Glu Leu Trp Tyr Arg Lys Ile Cys Gly Phe Asp Val Leu Tyr Pro
 405 410 415
 Pro Glu Arg Tyr Gly His Val Leu Ser Gly Trp Ile Cys Gly Glu Glu
 420 425 430
 Ala Leu Val Met Glu Lys Cys Asp Asp Glu Ala Val Ala Glu Ile Cys
 435 440 445
 Thr Glu Met Leu Arg Gln Phe Thr Gly Asn Pro Asn Ile Pro Lys Pro
 450 455 460
 Arg Arg Ile Leu Arg Ser Ala Trp Gly Ser Asn Pro Tyr Phe Arg Gly
 465 470 475 480
 Ser Tyr Ser Tyr Thr Gln Val Gly Ser Ser Gly Ala Asp Val Glu Lys
 485 490 495
 Leu Ala Lys Pro Leu Pro Tyr Thr Glu Ser Ser Lys Thr Ala Pro Met
 500 505 510
 Gln Val Leu Phe Ser Gly Glu Ala Thr His Arg Lys Tyr Tyr Ser Thr
 515 520 525
 Thr His Gly Ala Leu Leu Ser Gly Gln Arg Glu Ala Ala Arg Leu Ile
 530 535 540
 His Met Tyr Arg Asp Leu Phe Gln Gln Gly Thr
 545 550 555

(110) 129

(111) 250

(112) PRT

(113) Homo sapiens

(100) 129

Met Gly Ser Gln His Ser Ala Ala Ala Arg Pro Ser Ser Cys Arg Arg
 1 5 10 15
 Lys Gln Glu Asp Asp Arg Asp Gly Leu Leu Ala Glu Arg Glu Gln Glu
 20 25 30
 Glu Ala Ile Ala Gln Phe Pro Tyr Val Glu Phe Thr Gly Arg Asp Ser
 35 40 45
 Ile Thr Cys Leu Thr Cys Gln Gly Thr Gly Tyr Ile Pro Thr Glu Gln
 50 55 60
 Val Asn Glu Leu Val Ala Leu Ile Pro His Ser Asp Gln Arg Leu Arg
 65 70 75 80
 Pro Gln Arg Thr Lys Gln Tyr Val Leu Leu Ser Ile Leu Leu Cys Leu
 85 90 95
 Leu Ala Ser Gly Leu Val Val Phe Phe Leu Phe Pro His Ser Val Leu
 100 105 110
 Val Asp Asp Asp Gly Ile Lys Val Val Lys Val Thr Phe Asn Lys Gln
 115 120 125
 Asp Ser Leu Val Ile Leu Thr Ile Met Ala Thr Leu Lys Ile Arg Asn
 130 135 140

Ser Asn Phe Tyr Thr Val Ala Val Thr Ser Leu Ser Ser Gln Ile Gln
155 150 155 160
Tyr Met Asn Thr Val Val Ser Thr Tyr Val Thr Thr Asn Val Ser Leu
165 170 175
Ile Pro Pro Arg Ser Glu Gln Leu Val Asn Phe Thr Gly Lys Ala Glu
180 185 190
Met Gly Gly Pro Phe Ser Tyr Val Tyr Phe Phe Cys Thr Val Pro Glu
195 200 205
Ile Leu Val His Asn Ile Val Ile Phe Met Arg Thr Ser Val Lys Ile
210 215 220
Ser Tyr Ile Gly Leu Met Thr Gln Ser Ser Leu Glu Thr His His Tyr
225 230 235 240
Val Asp Cys Gly Gly Asn Ser Thr Ala Ile
245 250

<110> 130

<111> 174

<112> FRT

<113> Homo sapiens

<400> 130

Met Gln Ala Pro Ala Phe Arg Asp Lys Lys Gln Gly Val Ser Ala Lys
1 5 10 15
Asn Gln Gly Ala His Asp Pro Asp Tyr Gln Asn Ile Thr Leu Ala Phe
20 25 30
Lys Asn Gln Asp His Ala Lys Gly Gly His Ser Arg Pro Thr Ser Gln
35 40 45
Val Pro Ala Gln Cys Arg Pro Ser Asp Ser Thr Gln Val Pro Cys
50 55 60
Trp Leu Tyr Arg Ala Ile Leu Ser Leu Tyr Ile Leu Leu Ala Leu Ala
65 70 75 80
Phe Val Leu Cys Ile Ile Leu Ser Ala Phe Ile Met Val Lys Asn Ala
85 90 95
Glu Met Ser Lys Glu Leu Leu Gly Phe Lys Arg Glu Leu Trp Asn Val
100 105 110
Ser Asn Ser Val Gln Ala Cys Glu Arg Gln Lys Arg Gly Trp Asp
115 120 125
Ser Val Gln Gln Ser Ile Thr Met Val Arg Ser Lys Ile Asp Arg Leu
130 135 140
Glu Thr Thr Leu Ala Gly Ile Lys Asn Ile Asp Thr Lys Val Gln Lys
145 150 155 160
Ile Leu Glu Val Leu Gln Lys Met Pro Gln Ser Ser Pro Gln
165 170

<110> 131

<111> 1908

<112> DNA

<113> Homo sapiens

<400> 131

atgaccacgt	ggagcctccg	gaggagggcg	gcccgcacgc	tgggaactct	gtgtctggtc	60
gtcttggggt	tcttggtgct	tgcagggtcg	gactggagca	ccctgggtcc	tctggggctc	120
ggccatcgac	agctgggggt	gcaggccaa	ggctggaaat	tcattgctga	ggattccacc	180
ttctggatct	tggggggctc	catccactat	ttcctgtgtc	ccaggcgagta	ctggaggggac	240
cgcttctgtg	agatgaagcc	ctgtggcttg	aacacccctc	ccacctatgt	tccgtgggaac	300
ctgcattgag	cagaaagagg	caaatttgac	ttctctggga	acctgggaat	ggaggccttc	360
gtcttgatgg	ccgcagagat	cggtctgtgg	gtgattctgc	gtccaggccc	ctacatctgc	420
agtgcagatg	acctgggggg	cttgcccagc	tgcctactcc	aagaccttgg	catgagggtg	480
aggacaactt	acaagggttt	cacccaagca	gtggacattt	attttgacca	cttgatgtcc	540
agggtggtgc	catcccgata	caagcgtggg	ggacctatca	ttgcctgtca	ggtggagaat	600
gaatatggtt	cctataataa	agaccccgca	tacatgacct	acgtcaagaa	ggcactggag	660

gaccgtggga	ttgtggaaat	gctccctgact	tcaagacaaca	aggatggggt	gagcaagggg	720
attgtccagg	gagtttttgg	caccatcaac	ttgcagtcac	cacacggagct	gcagctactg	740
accacctttc	tcttcaacgt	ccaggggaat	cagcccaaga	tggatgatga	gtactggacg	760
gggtgggtttg	actcgtgggg	aggccctcac	aatacttttg	attctctctga	ggtttttgaaa	780
acgtgtgtctg	ccattgttga	ggccggctcc	tccatcaaac	tctacatgtt	ccacggaggc	800
accaactttg	gcttcatgaa	tggagccatg	cacttccatg	actacaagtc	agatgtccac	820
agctatgact	atgatgctgt	gctgacagaa	gcggggcatt	acaaggccaa	gtacatgaag	840
cttcagagat	tcttcggctc	cattccaggc	atccctctcc	ctcccccacc	tgacctttct	860
cccaagatgc	cgtatgagcc	cttaacggca	gtcttctacc	tgtctctctg	ggacgacctc	880
aagtacctgg	gggagccaat	caagtctgaa	aagcccatca	acatggagaa	cctgcccagtc	900
aattgggggaa	atggacagtc	cttcgggtac	attctctatg	agaaccagcat	caactcgtct	920
ggcatcccca	gtggccacgt	gcattgatgg	gggaggtgt	ttgtgaacac	agtatccata	940
ggatttcttgg	actacaagac	aacgaagatt	gccttccccc	tgatccaggg	ttacaccttg	960
ctgaggatct	tgggtggagaa	tgggtgggga	gtcaactatg	gggagaatat	tgatgacacg	980
cgcaaaagct	taatttgaaa	ctctctatctg	aatgattcac	ccctgaaaaa	cttcagaatc	1000
tatagccctgg	atatgaagaa	gagctttctt	cagaggttctg	gcctggacaa	atggagttcc	1020
ctcccaagaa	caccacacatt	acctgctttc	tcttgggtta	gcttgtccat	cagctccacc	1040
ctttgtgaca	ctttctctga	gctggagggc	tggggaagag	gggttctatt	catcaatggc	1060
cagaaccttg	gacgttactg	gaacatttga	ccacagaaga	cgttttacct	cccaagttcc	1080
tgggttgagca	cggaatcaca	ccaggtccatc	gtttttgagg	agaagatggc	gggacctgca	1100
ctacagttcca	cggaaccccc	ccacctgggc	aggaaccagt	acattcaag		1120

<210> 112

<211> 961

<212> DNA

<213> Homo sapiens

<400> 112

agggtggagc	tcattttccc	gctgttgatc	cttcctcttg	ccctccctcc	gctatctggt	60
ggcccccaca	ccaggaaaaat	gctgtccagt	gggtgtgtga	cattcaactgt	tcagcttccg	80
gggaagtag	ttgtggtcac	aggagctaac	ccaggtatctg	gggaaggagac	agcccaagag	100
ctggctccca	gaggagctcg	agtatattta	gcttgcctgg	atgtggaaaa	gggggaatttg	120
gtggcccaag	agatccagac	cacgacaggg	aacccagcagg	tgttgggtgg	gaaactggan	140
ctgtctctta	ccaggtctat	tggagctttc	gctaaagggt	tcttagctga	ggaaaagcac	160
ctccaggtat	tgatcaacaa	tgcaggagtg	atgatgtgtc	cgtactcgaa	gacagccagat	180
ggttttgaga	ttcacatagg	agtcacacac	ttgggtccat	tcctcccaac	ccatctgtctg	200
ctagagaaac	taaggaatc	agcccatcca	aggatagtaa	atgtgtcttc	cctcgccacat	220
ccctgggaa	ggatccacct	ccataacctg	ccagggcgaga	aattctacaa	tgcaggccctg	240
gctactcttc	acagcaagct	agcccaacac	ctctccacc	aggaactggc	ccggagacta	260
aaaggctctg	gcgttaacgac	gtattctgtta	caccttgga	cagtcccaac	tgaactgggt	280
cggcactcat	ctttcatgag	atggatgttg	tggcttttct	cccttttctat	caagactcct	300
caggagggag	ccagacccag	cctgcaactgt	gccttaacag	aaggctctga	gattctaaat	320
gggaatcatt	tcagtgaactg	tcattgtggca	tgggtctctg	cccaagctcg	taattgagact	340
atagcaaggg	ggctgtggga	cgtcayttgt	gaactgtctg	gcctcccaat	agac	360

<210> 113

<211> 246

<212> DNA

<213> Homo sapiens

<400> 113

atggccttta	ccctgtactc	actgctgcag	gcagccctgc	tctgcttcaa	cgcctatcgca	60
gtgctgcacg	aggagcagatt	cctcaagaac	attggtctgg	gaacagacca	gggaatttgt	80
ggatttggag	aagagccggg	aattaaatca	cagctaatga	accttatctg	atctgtgaaga	100
acgtgatga	gagtgccatt	gataaatagta	aaatcaattg	caattgtgtt	attttttatta	120
cttggga						140

<210> 114

<211> 741

<212> DNA

<213> Homo sapiens

<400> 131

argcatcttg	caagtcttgt	eggetctctg	tccctccttc	tgetactggg	ggcctgtct	60
ggatgggggg	ccagcgatga	ccccattgag	aaggtcattg	aagggatcaa	ccgagggctg	120
agcaatgcag	agagagaggt	gggcaaggcc	ctggatggca	tcaacagtgg	aatcacgcac	180
gcccgaagg	aagtggagaa	ggttttcaac	ggacttagca	acatggggag	ccacacgggc	240
aaggagtttg	acaaaggcgt	ccaggggctc	aaocacggca	tggacaaggt	tggccatgag	300
atcaaccatg	gtattggaca	agcaggaag	gaagcagaga	agcttggcca	tgggggtcaac	360
aacgttgctg	gacaggccgg	gaagggaagca	gacaaaggcg	tccaagggtt	ccacactggg	420
gtccaccajg	ctgggaagga	agcagagaaa	cttggcccaag	gggtcaacca	tgttgtgac	480
caggctggaa	aggaagtggg	gaagcttggc	caaggtgccc	accatgtctg	tggccaggcc	540
gggaaggajc	tgcagaatgc	tccataatgg	gtcaaaccaag	ccagcaaggga	ggccaacag	600
ctgtgaaatg	gcaaccatca	aagcggatct	tccagccatc	aaggaggggc	caacaaccag	660
ccgttagctt	ctggggcctc	ggtaacacag	ccttccatca	accttcggc	cttgtggagg	720
aggttcgcca	acatcatgcc					741

<210> 115

<211> 613

<212> DNA

<213> Homo sapiens

<400> 135

atggccccca	gcaacctgtc	agtgggggag	atgagggaag	atgagaagca	cctgggtgctg	60
gagatgctja	agggccgggt	gaaggacacg	gaaaaacagg	tggccctcca	tgccttgaca	120
aggcgcggag	ccctgctcct	cctggccggg	gcacgcaggc	gcctgcctct	tgtccctggc	180
tcccttgcca	tggacctcct	cctggccggg	ctccctggctg	tggcggccgt	gaagctgggc	240
tggggggcct	gatggggctc	gctgctccg	tgggttggc	tggggggccc	ctgggttggc	300
ggggggggct	cctgtgaagt	gtgtggggct	ctgggttggc	cccttggcag	aattgcaagg	360
ggggggggct	gggtcaacag	cctgtctctc	tctcctggc	acggccggcg	ggcctggggc	420
aggaggctja	tggccttcgc	ggaggccggg	gctcgggct	ggcctggggg	catgggggag	480
tggggggcct	ggctgtgtgt	cccggtggct	gtggccggct	gggggggtgg	agggatgctg	540
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<210> 136

<211> 1796

<212> DNA

<213> Homo sapiens

<400> 136

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1296

<210> 137

<211> 918

<212> DNA

<213> Homo sapiens

<400> 137

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<210> 138

<211> 1665

<212> DNA

<213> Homo sapiens

<400> 138

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acccacccga	agtaactatc	caacacccac	gggtgtctgc	tgtccggcca	gcgtgaggct	1620
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<210> 139

<211> 350
<212> DNA
<213> Homo sapiens

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gaggaattca ccgggagaga tagcatcacc tgcctccact gccaggggac aggcctacatt 180
ccaacagagc aagtaaatga gttgggtggc ttgatccac acagtgalca gagattgggc 240
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aaaatcagga actccaactc ctacacgggtg gcagtgaaca gctgtccag ccagattccag 480
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tactctctct gcacgggtacc tgagatccctg ctgcacacaa tagtgatctt catgcgaact 660
tcagtgaaga tttcatacat tggctccatg acccagagct ccttggagac acatcactat 720
gtggattgtg gacgaattc cacagctatt 750

<212> 140
<213> 122
<212> DNA
<213> Homo sapiens

<400> 140
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ggtcattcac gacccagag ccaggtccaa gcacagtgca ggcagccctc agactccacc 180
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gaggtgtgtg gctttaaaag ggagcttctg aatgtctcaa actcctgaca agnatggag 360
gagagacaga agagaggctg ggattccgtt cagcagagaa tcaacatggt caggagccag 420
atggtatgat tagagacgac attagcaggc ataaaaaaca ttgacacaaa ggtacagaaa 480
aatgtgpagg tgcgcagaaa aatgcacacg tctccactc aa 522

<212> 141
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<212> DNA
<213> Homo sapiens

<220>
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<222> (129)...(2039)

<400> 141
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aacacggg atg acc aag tgg agc ctc cgg cgg agg ccg gcc cgc aag ctg 170
Met Thr Thr Trp Ser Leu Arg Arg Arg Pro Ala Arg Thr Leu
1 5 10
gga ctc cag ctg ctg gtc gtc ttg gcc ctc ctg gtg ctt cgc agg ctg 218
Gly Leu Leu Leu Leu Val Val Leu Gly Phe Leu Val Leu Arg Arg Leu
15 20 25 30
gac tgg agc acc ctg gtc cct ctg cgg ctc cgc cat cga cag ctg ggg 266
Asp Trp Ser Thr Leu Val Pro Leu Arg Leu Arg His Arg Gln Leu Gly
35 40 45
ctg cag gcc aag gcc tgg aac ttc atg ctg gag gat tcc acc ttc tgg 314
Leu Gln Ala Lys Gly Trp Asn Phe Met Leu Glu Asp Ser Thr Phe Trp
50 55 60
acc ttc ggg gcc tcc ata cgc tat ttc cgt gtg ccc agg gag tac tgg 362
Ile Phe Gly Gly Ser Ile His Tyr Phe Arg Val Pro Arg Gln Tyr Trp

65	70	75	
agg gac cpc ctg ctg aag atg aag ggc tgt ggc ttg aac acc ctc acc			410
Arg Asp Arg Leu Leu Lys Met Lys Ala Cys Gly Leu Asn Thr Leu Thr			
80	85	90	
acc tat gtt cgg tgg aac ctg cat gag aca gaa aga ggc aaa ttt gac			453
Thr Tyr Val Pro Trp Asn Leu His Glu Pro Glu Arg Gly Lys Phe Asp			
95	100	105	110
ttc tct ggg aac ctg gac ctg gag gcc ttc gtc ctg atg gcc gca gag			505
Phe Ser Gly Asn Leu Asp Leu Glu Ala Phe Val Leu Met Ala Ala Glu			
115	120	125	
atc ggg ctg tgg gtg att ctg cgt cca ggc ccc ttc atc tgc agt gag			554
Ile Gly Leu Trp Val Ile Leu Arg Pro Gly Pro Tyr Ile Cys Ser Glu			
130	135	140	
atg gac ctc ggg ggc ttg ccc agc tgg cta ctc caa gac cct ggc atg			602
Met Asp Leu Gly Gly Leu Pro Ser Trp Leu Leu Gln Asp Pro Gly Met			
145	150	155	
agg ctg agg aca act tac aag ggc ttc acc gaa gca gtg gac ctt tat			650
Arg Leu Arg Thr Thr Tyr Lys Gly Phe Thr Glu Ala Val Asp Leu Tyr			
160	165	170	
ttt gac cac ctg atg tcc agg gtg gtg cca ctc cag tac aag cgt ggg			693
Phe Asp His Leu Met Ser Arg Val Val Pro Leu Gln Tyr Lys Arg Gly			
175	180	185	190
gga cct atc att ggc gtg cag gtg gag aat gaa tat ggt tcc tat aat			746
Gly Pro Ile Ile Ala Val Gln Val Glu Asn Glu Tyr Gly Ser Tyr Asn			
195	200	205	
aaa gac ccc gca tac atc ccc tac gtc aag aag gca ctg gag gac cgt			791
Lys Asp Pro Ala Tyr Met Pro Tyr Val Lys Lys Ala Leu Glu Asp Arg			
210	215	220	
ggc att gtg gaa ctg atc ctg act tca gaa aac aag gat ggg ctg agc			842
Gly Ile Val Glu Leu Leu Leu Thr Ser Asp Asn Lys Asp Gly Leu Ser			
225	230	235	
eag ggg att gtc cag gga gtc ttg gcc acc atc aac ttg cag tca aca			890
Lys Gly Ile Val Gln Gly Val Leu Ala Thr Ile Asn Leu Gln Ser Thr			
240	245	250	
cac gag ctg cag cta ctg acc acc ttt ctc ttc aac gtc cag ggg act			933
His Glu Leu Glu Leu Thr Thr Phe Leu Phe Asn Val Gln Gly Thr			
255	260	265	270
cag ccc aag atg gtg atg gag tcc tgg acc ggg tgg ttc gac tgg tgg			985
Gln Pro Lys Met Val Met Glu Tyr Trp Thr Gly Trp Phe Asp Ser Trp			
275	280	285	
cga ggc cct cac aat atc ttg gat tct tct gag gtt ttg aaa acc gtg			1034
Gly Gly Pro His Asn Ile Leu Asp Ser Ser Glu Val Leu Lys Thr Val			
290	295	300	
tct gcc att gtg gac gcc ggc tcc tcc atc aac ctc tac atg ttc cac			1082
Ser Ala Ile Val Asp Ala Gly Ser Ser Ile Asn Leu Tyr Met Phe His			
305	310	315	
gga ggc acc aac ttt ggc ttc atg aat gga gcc atg cac ttc cat gac			1130
Gly Gly Thr Asn Phe Gly Phe Met Asn Gly Ala Met His Phe His Asp			
320	325	330	
tac aag tca gat gtc acc agc tat gac tat gat gct gtg ctg aca gaa			1178
Tyr Lys Ser Asp Val Thr Ser Tyr Asp Tyr Asp Ala Val Leu Thr Glu			
335	340	345	350
gcc ggc gat tac acg gcc aag tac atg aag ctt cga gac ttc ttc ggc			1226
Ala Gly Asp Tyr Thr Ala Lys Tyr Met Lys Leu Arg Asp Phe Phe Gly			
355	360	365	
tcc atc tca ggc atc cct ctc cct ccc cca cct gac ctt ctt ccc aag			1274
Ser Ile Ser Gly Ile Pro Leu Pro Pro Pro Pro Asp Leu Leu Pro Lys			
370	375	380	
atg cag tac gag ccc tta aag cca gtc ttg tta ctg tct ctg tgg gac			1322
Met Pro Tyr Glu Pro Leu Thr Pro Val Leu Tyr Leu Ser Leu Trp Asp			
385	390	395	

gac ctc aag tac ctg ggg gag cca atc aag tct gaa aag ccc atc aac	1370
Ala Leu Lys Tyr Leu Gly Glu Pro Ile Lys Ser Glu Lys Pro Ile Asn	
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Met Glu Asn Leu Pro Val Asn Gly Gly Asn Gly Gln Ser Phe Gly Tyr	
415 420 425 430	
att ctc tat gag aac agc atc aac tgc tct ggc atc ctc agt ggt cac	1466
Ile Leu Tyr Glu Thr Ser Ile Thr Ser Ser Gly Ile Leu Ser Gly His	
435 440 445	
gtg cat gat cgg ggg cag gtg ttt gtg aac aca gta tcc ata gga ttc	1514
Val His Asp Arg Gly Gln Val Phe Val Asn Thr Val Ser Ile Gly Phe	
450 455 460	
ctg cac tac aag aca aca aag att gct gtc ccc ctg atc bag ggt tac	1562
Leu Asp Tyr Lys Thr Thr Lys Ile Ala Val Pro Leu Ile Gln Gly Tyr	
465 470 475	
aac gtg ctg agg atc ttc gtg gag aat ggt ggg cga gtc aac tat ggg	1610
Thr Val Leu Arg Ile Leu Val Glu Asn Arg Gly Arg Val Asn Tyr Gly	
480 485 490	
gag aat att gat gac bag cgc aaa ggc tta att gga aat ctc tat ctg	1658
Glu Asn Ile Asp Asp Gln Arg Lys Gly Leu Ile Gly Asn Leu Tyr Leu	
495 500 505 510	
aat gat tca ccc ctg aaa aac ttc aga atc tat agc ctg gat atg aag	1706
Asn Asp Ser Pro Leu Lys Asn Phe Arg Ile Tyr Ser Leu Asp Met Lys	
515 520 525	
aag agc ttc ctg bag agc ttc ggc ctg gac aaa tgg agt tcc ct : cca	1754
Lys Ser Phe Phe Gln Arg Phe Gly Leu Asp Lys Trp Ser Ser Leu Pro	
530 535 540	
gaa aca cca aca tta cca gct ttc ttc ttc ggt agt ttc ttc atc agt	1802
Glu Thr Pro Thr Leu Pro Ala Phe Phe Leu Gly Ser Leu Ser Ile Ser	
545 550 555	
tca acc ctt tgt gac aac ttt ctg aag ctg gag ggc tgc gag aat ggg	1850
Ser Thr Pro Cys Asp Thr Phe Leu Lys Leu Glu Gly Trp Glu Lys Gly	
560 565 570	
gtt gta ttc atc aat ggt bag aac ctt gga cgt tac tgc aac att gga	1898
Val Val Phe Ile Asn Gly Gln Asn Leu Gly Arg Tyr Trp Asn Ile Gly	
575 580 585 590	
ccc bag aag aag ctt tat ctc cca ggt ccc tgg ttc agc agc gga atc	1946
Pro Gln Lys Thr Leu Tyr Leu Pro Gly Pro Trp Leu Ser Ser Gly Ile	
595 600 605	
aac bag gtc atc gtt ttc gag gag aag agt gag ggg cct gga tta bag	1994
Asn Gln Val Ile Val Phe Glu Gln Thr Met Ala Gly Pro Ala Leu Gln	
610 615 620	
ttc aag gaa acc ccc ca : ctg ggc agt aac bag tac att aag tgag	2040
Phe Thr Glu Thr Pro His Leu Gly Arg Asn Gln Tyr Ile Lys	
625 630 635	
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 <212> DNA
 <213> Homo sapiens

<220>
 <221> CD3
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          Met Val Glu Leu Met Phe Pro Leu Leu Leu Leu Leu Pro
          1          5          10
ctc ctt ctg tat atg gct gag ccc caa atc agg aaa atg ctg tcc agt 159
Phe Leu Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser
          15          20          25          30
ggg gtr tgt aca tca act gtt cag ctt cct ggg aaa gta gtt gtg gtc 207
Gly Val Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Val
          35          40          45
tca gga gct aat acc ggt atc ggg aag gag aca ggc aaa gag ctg gct 255
Thr Gly Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala
          50          55          60
cag aga gga gct cga gta tat tta gct tgc cgg gat gtg gaa aag ggg 303
Gln Arg Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly
          65          70          75
gaa ttr gtg gcc aaa gag atc cag acc aag aca ggg aac cag cag gtg 351
Glu Leu Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val
          80          85          90
ctg gtr cgg aaa ctg gac ctg tct gat act aag tct att cga gct ttt 399
Leu Val Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe
          95          100          105          110
gct aar ggc ttc tta gct gag gaa aag cac ctc cac gtt ttg atc aac 447
Ala Lys Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn
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aat gaa gga gtg atg atg tgt cag tac cag aag aca gca gat ggc ttt 495
Asn Ala Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe
          130          135          140
gag atr cac ata gga gtc aac cac ttg ggt cac ttc ctc cta acc cat 543
Glu Met His Ile Gly Val Asn His Leu Gly His Phe Leu Leu Thr His
          145          150          155
ctg ctr cta gag aaa cta aag gaa tca gcc cca tca agg ata gta aat 591
Leu Leu Leu Glu Lys Leu Lys Glu Ser Ala Pro Ser Arg Ile Val Asn
          160          165          170
gtg trt tcc ctc gca cat cac ctg gga agg atc cac ttc cat aac ctg 639
Val Ser Ser Leu Ala His His Leu Gly Arg Ile His Phe His Asn Leu
          175          180          185          190
cag gtr gag aaa ttc cac aat gca ggc ctg gcc tac tgt cac agc aag 687
Gln Gly Glu Lys Phe Tyr Asn Ala Gly Leu Ala Tyr Cys His Ser Lys
          195          200          205
cta gcc aac atc ctc ttc acc cag gaa ctg gcc cag aga cta aaa ggc 735
Leu Ala Asn Ile Leu Phe Thr Gln Glu Leu Ala Arg Arg Leu Lys Gly
          210          215          220
tot ggc gtt aag acg tat tot gta cac cct ggc aca gtc caa tot gaa 783
Ser Gly Val Thr Thr Tyr Ser Val His Pro Gly Thr Val Gln Ser Glu
          225          230          235

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ctg att cgg cac tca tct ctc atg aga tgg atg tgg tgg ctt ttc tcc 831
 Leu Val Arg His Ser Ser Phe Met Arg Trp Met Trp Trp Leu Phe Ser
 240 245 250
 ttt ttc atc aag act cct cag cag gga gcc cag acc agc ctg cac tgt 879
 Phe Phe Ile Lys Thr Pro Gln Gln Gly Ala Gln Thr Ser Leu His Lys
 255 260 265 270
 ggc tca aca gaa ggt ctt gag att cta agt ggg aat cat ttc agt gac 927
 Ala Leu Thr Gln Gly Leu Gln Ile Leu Ser Gly Asn His Phe Ser Asp
 275 280 285
 tgt cat gtg gca tgg gtc tct gcc caa ggt cgt aat gag act ata gca 975
 Lys His Val Ala Trp Val Ser Ala Gln Ala Arg Asn Gln Thr Ile Ala
 290 295 300
 ggt cgg ctg cgg gac gtc agt tgt gac ctg ctg ggc ctc cca ata gac 1023
 Arg Arg Leu Trp Asp Val Ser Lys Asp Leu Leu Gly Leu Pro Ile Asp
 305 310 315
 tttcggc cagtgccagt ttgacccaaq agaagaatgc agcagactac acagtaactac 1070
 ttttcaaaat gattctcttt caaggttttc aaaaacttta gcacaaagag agcaaaactt 1120
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 tttctctatg tccagtttta ctttgcctct gtacagggca gatttactag agatactata 1220
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 ttccacatt cagttctctc caacacacca gtttccactt caagaggggc acactgcaac 1370
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 ttatctgga taatagtgca gaataaacta attaatgtt taacttaattt atattgaact 2220
 ttatctgga aataaactt cttcttactt 2270

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 011 - 146
 012 - DNA
 013 - Homo sapiens

010 -
 011 - CDS
 012 - (34)...(131)

0400 - 143
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 ctccggggcg gctcgggag gcc atg gcc ttt acc ctg tac tca ctg ctg 110
 Met Ala Phe Thr Leu Tyr Ser Leu Leu
 : :
 : :
 cag gca gcc ctg ctc tgc gtc aac gcc atc gca gtg ctg cac gag gag 118
 Gln Ala Ala Leu Leu Cys Val Asn Ala Ile Ala Val Leu His Gln Gln
 11 15 20 25
 cga ttc ctc aag agc att ggc tgg gga aca gac cag gga att ggt gga 206
 Arg Phe Leu Lys Asn Ile Gly Trp Gly Thr Asp Gln Gly Ile Gly Gly
 30 35 40

ttt gga gaa gag ccg gga att aaa tca cag cta atg aac ctt att cga 254
 Phe Gly Glu Glu Pro Gly Ile Lys Ser Gln Leu Met Asn Leu Ile Arg
 45 50 55
 tct gta aga acc gtg atg aga gtg cca tgg ata ata gta aac tca att 302
 Ser Val Arg Thr Val Met Arg Val Pro Leu Ile Ile Val Asn Ser Ile
 60 65 70
 gca att gtg tta ctt tta tta ttt gga tgaatatcag tggagaaaat g 350
 Ala Ile Val Leu Leu Leu Phe Gly
 75 80
 gagatcaga agaggacatg ccagtagaag ttattacttt ggtaattatt ggaatatatta 410
 tatctagct ggctgacett gcacttgcca aaaatgtaaa gctgaaaata aaaccagggt 470
 ttctatttat ctgttttttt ttttaattgt gcacttgtag ttctattaca aaagatcaga 530
 tcatgaaagg cagtaactct ccaggactgg aatactctgat tggtcagtgt taatagtagt 590
 tcatgtgtgt gtgagattgt taaaaggggt caagactgtt gcttctcttt ttthagatat 650
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 acttagccat gatgttagtg gttatcccta gataaaaatta aaaggatttt taaaaagtaa 770
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 aattatttgg tctattgtct cagctatata ttcaaattta tacaatactat tgagtattaa 890
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 aaaaacaaca gcgtaaatat tagccacaaa gaggagtctt aaacaatcac aattacactg 1130
 tactaccaa gaggactgtt tattgtgaag cattacctt tcaaaaaata attacatttc 1190
 tattcttgg tggagacga cattgtggag tgtgattctt aattctctat tgagtttgtc 1250
 aataagacat tgatgtcaga taggttgtct ttgttttta tgtctcagac catcttgga 1310
 gattcttga ctatctcata atacagtttt atgagaaaag gttgaaacta tgtaaatggt 1370
 ttctatgga attatcagt* acaatatttt aaaggtgtag aatgacatct ttgtttatag 1430
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<211> 917

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (32)...(775)

<400> 144

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 1 5
 ggc tcc tgc tcc ctg ctt ctg cta ctg ggg gcc ctg tct gga tgg gcg 100
 Gly Ser Cys Ser Leu Leu Leu Leu Gly Ala Leu Ser Gly Trp Ala
 10 15 20
 gcc agc gat gac ccc att gag aag gtc att gaa ggg atc aac cga ggg 148
 Ala Ser Asp Asp Pro Ile Glu Lys Val Ile Glu Gly Ile Asn Arg Gly
 25 30 35
 ctg agc aat gca gag aga gag gtg ggc aag gcc ctg gat ggc atc aac 196
 Leu Ser Asn Ala Glu Arg Glu Val Gly Lys Ala Leu Asp Gly Ile Asn
 40 45 50 55
 agt gga atc acg cat gcc gga agg gaa gtg gag aag gtt ttc aac gga 244
 Ser Gly Ile Thr His Ala Gly Arg Glu Val Glu Lys Val Phe Asn Gly
 60 65 70
 ctt agc aac atg ggg agc ccc acc ggc aag gag ttg gac aaa ggc gtc 292
 Leu Ser Asn Met Gly Ser His Thr Gly Lys Glu Leu Asp Lys Gly Val
 75 80 85
 cag ggg ctg aac ccc ggc atg gac aag gtt gcc cat gag atc aac cat 340
 Gln Gly Leu Asn His Gly Met Asp Lys Val Ala His Glu Ile Asn His
 90 95 100
 tgt att gga cca gca gga aat gaa gaa gag aag ctt gcc cat ggc gtc 388

Gly Ile Gly Gln Ala Gly Lys Glu Ala Glu Lys Leu Gly His Gly Val	
105 110 115	
aac aac gct gct gga cag gcc ggg aag gaa gca gac aaa gcg gtc caa	436
Asn Asn Ala Ala Gly Gln Ala Gly Lys Glu Ala Asp Lys Ala Val Gln	
120 125 130 135	
ggg ttc cac act ggg gtc cac cag gct ggg aag gaa gca gag aaa ctt	484
Gly Phe His Thr Gly Val His Gln Ala Gly Lys Glu Ala Glu Lys Leu	
140 145 150	
ggc caa ggg gtc aac cat gct gct gac cag gct gga aag gaa gtg gag	532
Gly Gln Gly Val Asn His Ala Ala Asp Gln Ala Gly Lys Glu Val Glu	
155 160 165	
aag ctt ggc caa ggt gcc cac cat gct gct ggc cag gcc ggg aag gag	580
Lys Leu Gly Gln Gly Ala His His Ala Ala Gly Gln Ala Gly Lys Glu	
170 175 180	
ctg cag aat gct cat aat ggg gtc aac caa gcc agc aag gag gcc aac	628
Leu Gln Asn Ala His Asn Gly Val Asn Gln Ala Ser Lys Glu Ala Asn	
185 190 195	
cag ctg ctg aat ggc aac cat caa agc gga tct tcc agc cat caa gga	676
Gln Leu Leu Asn Gly Asn His Gln Ser Gly Ser Ser Ser His Gln Gly	
200 205 210 215	
ggg gcc aca acc aac cag tta gcc tct ggg gcc tcc gtc aac aag cct	724
Gly Ala Thr Thr Thr Pro Leu Ala Ser Gly Ala Ser Val Asn Thr Pro	
220 225 230	
tac atc aac ctt ccc gcc ctg tgg agc agc gtc gcc aac atc atg ccc	772
Phe Ile Asn Leu Pro Ala Leu Trp Arg Ser Val Ala Asn Ile Met Pro	
235 240 245	
aaagcggg catcgggcat tctggggaga ataatgtcg cgttgccaca tcagctgacn	820
tgactggag gggtggggg tgggggacag gtttctgaaa tccctgaagg ggggtgtact	860
ggatttgtg aataaattg ataacct	917

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 <11> 1306
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 <13> Homo sapiens

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Met Ala Pro Ser His Leu Ser Val Arg Glu Met Arg	
1 5 10	
gaa gat gag aag ccc ctg gtg ctg gag atg ctg aag gcc ggc gtg aag	157
Glu Asp Glu Lys Pro Leu Val Leu Glu Met Leu Lys Ala Gly Val Lys	
15 20 25	
gac aag gaa aac cgg gtg gcc ctg cat gcc ttg aca cgg ccg ccg gcc	205
Asp Thr Glu Asn Arg Val Ala Leu His Ala Leu Thr Arg Pro Pro Ala	
30 35 40	
ctg ctg ctg ctg gcc gcc gcc agc agc ggc ctg cgc ttt gtc ctg gct	253
Leu Leu Leu Leu Ala Ala Ala Ser Ser Gly Leu Arg Phe Val Leu Ala	
45 50 55 60	
tcc ttc gcc ctg gcc ctg ctg ctg cgg gtg ttc ctg gct gtg gcc gcc	301
Ser Phe Ala Leu Ala Leu Leu Leu Pro Val Phe Leu Ala Val Ala Ala	
65 70 75	
gtg aag ctg ggc ctg cgg gcc cga tgg ggc tgg ctg cct cgg ccg ggt	349
Val Lys Leu Gly Leu Arg Ala Arg Trp Gly Ser Leu Pro Pro Pro Gly	
80 85 90	
ggc ctg ggg ggc ccc tgg gtg gcc gtc cgg ggc tcc ggt gac gtg ttt	397
Gly Leu Gly Gly Pro Trp Val Ala Val Arg Gly Ser Gly Asp Val Cys	

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      95              100              105
ggg gtc ctg gct ctg gcc cct ggc aca aat gca ggg gac ggg gcc cgg      445
Gly Val Leu Ala Leu Ala Pro Gly Thr Asn Ala Gly Asp Gly Ala Arg
      110              115              120
gtc acc cgc ctg tct gtc tct cgc tgg cac cgc cgc cgg ggc gtg ggc      493
Val Thr Arg Leu Ser Val Ser Arg Trp His Arg Arg Arg Gly Val Gly
      125              130              135              140
agg agg ctg ctg gcc ttc gcg gag gcc cgg ggt cgg gcc tgg gct ggg      541
Arg Arg Leu Leu Ala Phe Ala Glu Ala Arg Ala Arg Ala Trp Ala Gly
      145              150              155
ggc atg ggg gag ccc cgg gcc cgg ctc gtg gtc ccc gtg gct gtg gcc      589
Gly Met Gly Glu Pro Arg Ala Arg Leu Val Val Pro Val Ala Val Ala
      160              165              170
gcc tgg cgg gtg ggc ggg atg ctg gag gcc tgt gcc tac cag gcc gag      637
Ala Trp Gly Val Gly Gly Met Leu Glu Gly Cys Gly Tyr Gln Ala Glu
      175              180              185
ggg ggc cgg gcc tgc ctg ggc tac acc ctg gtg agg gaa ttc agc aaa      685
Gly Gly Trp Gly Cys Leu Gly Tyr Thr Leu Val Arg Glu Phe Ser Lys
      190              195              200
gac ctg tgaagctaca gactgacagc cagggcaggc gaggaggagg gggcgccag      740
Asp Leu
      205
gacctgatga tggcctaactg ttctgggggtt cttttacctg ctctccctca gtgagtcctc      800
gacctccttg gggccagaaa cagaggcctg ccgaggggag gaggcctggcc ttgttcacc      860
cgtcagcagt gtgaagtctg ttgtgtttga gctctcaga gtggaatgac tcttttctt      920
tcttgccctt cgggggcctc ttgaggtcag cctctcccaa cctagctca gctcctgtct      980
gactgagaa acctccctgg gtgagtcttg caaagtctgt gtgttccttg cccaggctg      1040
ggagagttat ctggggaggg ggagaggagg ccgagcagaa taaagctag agttagggtt      1100
tgcagctcag cctccctagg acctggattg ggtcagatgc ctctcttgg aggggacaag      1160
gtgactgtt ttgagggggc gaggcagagg gctgcacagg ctggccctc ttggggaagg      1220
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<211> 2022
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<213> Homo sapiens

<220>
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ggcgggcccg gggactcgca ttcccggtt cccctccac ccacggcgc ctggacc      117
atg cac gcc aga tgg tgg gca gtg gtg gtg ctg gct gag ttc ccc tcc      165
Met Asp Ala Arg Trp Trp Ala Val Val Val Leu Ala Ala Phe Pro Ser
      1              5              10              15
cta ggg gca ggt ggg gag act ccc gaa gcc cct ccg gag tca tgg acc      213
Leu Gly Ala Gly Gly Glu Thr Pro Glu Ala Pro Pro Glu Ser Trp Thr
      20              25              30
cag cta tgg ttc ttc cga ttt gtg gtg aat gct gct gcc tat gcc agc      261
Gln Leu Trp Phe Phe Arg Phe Val Val Asn Ala Ala Gly Tyr Ala Ser
      35              40              45
ttt atg gta cct ggc tac ctc ctg gtg cag tac ttc agg cgg aag aac      309
Phe Met Val Pro Gly Tyr Leu Leu Val Gln Tyr Phe Arg Arg Lys Asn
      50              55              60
tac ctg gag acc ggt agg ggc ctc tgc ttt ctc ctg gtg aaa gct tgt      357
Tyr Leu Glu Thr Gly Arg Gly Leu Cys Phe Pro Leu Val Lys Ala Cys
      65              70              75              80
gtg ttt ggc aat gag ccc aag gcc tct gat gag att ccc ctg gag gcc      407

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Val Phe Gly Asn Glu Pro Lys Ala Ser Asp Glu Val Pro Leu Ala Pro	85	90	95	
cga aca gag gag gca gag acc acc cag atg tgg cag gcc ctg aag ctg				453
Arg Thr Glu Ala Ala Glu Thr Thr Pro Met Trp Gln Ala Leu Lys Leu	100	105	110	
ctc ttc tgt gcc aca ggg ctg cag gtg tct tat ctg act tgg ggt gtg				501
Leu Phe Cys Ala Thr Gly Leu Gln Val Ser Tyr Leu Thr Trp Gly Val	115	120	125	
ctg cag gaa aga gtg atg acc cgc agc tat ggg gcc aca gcc aca tca				549
Leu Gln Glu Arg Val Met Thr Arg Ser Tyr Gly Ala Thr Ala Thr Ser	130	135	140	
cag ggt gag cgc ttt acg gac tgg cag ttc ctg gtg cta atg aac cga				597
Pro Gly Glu Arg Phe Thr Asp Ser Gln Phe Leu Val Leu Met Asn Arg	145	150	155	160
gtg ctg gca ctg att gtg gct ggc ctg tcc tgt gtt ctg tgc aag cag				615
Val Leu Ala Leu Ile Val Ala Gly Leu Ser Cys Val Leu Cys Lys Gln	165	170	175	
ccc cgg cat ggg gca ccc atc tac cgg tac tcc ttt gcc agc ctg tcc				643
Pro Arg His Gly Ala Pro Met Tyr Arg Tyr Ser Phe Ala Ser Leu Ser	180	185	190	
aat gtg att agc agc tgg tgc caa tac gaa gct ctt aag ttc gtc agc				741
Asn Val Leu Ser Ser Trp Cys Gln Tyr Glu Ala Leu Lys Phe Val Ser	195	200	205	
ttc ccc acc cag gtg ctg gcc aag gcc tct aag ctg atc cct gtc atg				789
Phe Pro Thr Gln Val Leu Ala Lys Ala Ser Lys Val Ile Pro Val Met	210	215	220	
ctg arg gga aag att gtg tct cgg cgc acc tac caa cgc tgg cag tac				837
Leu Met Gly Lys Leu Val Ser Arg Arg Ser Tyr Glu His Trp Glu Tyr	225	230	235	240
ctg aca gcc aca ctg atc tcc att ggg gtc agc atg ttt ctg cta tcc				885
Leu Thr Ala Thr Leu Ile Ser Ile Gly Val Ser Met Phe Leu Leu Ser	245	250	255	
agg gga cca gag ccc cgc agc tcc cca gcc acc aca cta tca ggc ctg				933
Ser Gly Pro Glu Pro Arg Ser Ser Pro Ala Thr Thr Leu Ser Gly Leu	260	265	270	
atc tta ctg gca ggt tat att gct ttt gac agc ttc acc tca aac tgg				981
Ile Leu Leu Ala Gly Tyr Ile Ala Phe Asp Ser Phe Thr Ser Asn Trp	275	280	285	
cag gat gcc ctg ttt gcc tat aag atg tca tgg gtg cag atg atg ttc				1029
Gln Asp Ala Leu Phe Ala Tyr Lys Met Ser Ser Val Gln Met Met Phe	290	295	300	
ggg gtc aat ttc ttc tcc tgc ctc ttc aca gtg ggc tca ctg cta gaa				1077
Gly Val Asn Phe Phe Ser Cys Leu Phe Thr Val Gly Ser Leu Leu Glu	305	310	315	320
cag ggg gcc cta ctg gag gga acc cgc ttc atg ggg cga cac agt gag				1125
Gln Gly Ala Leu Leu Glu Gly Thr Arg Phe Met Gly Arg His Ser Glu	325	330	335	
ttt gct gcc cat gcc ctg cta ctc tcc atc tgc tcc gca tgt gcc cag				1173
Phe Ala Ala His Ala Leu Leu Leu Ser Ile Cys Ser Ala Cys Gly Gln	340	345	350	
ctc ttc atc ttt tac acc att ggg cag ttt ggg gct gcc gtc ttc acc				1221
Leu Phe Ile Phe Tyr Thr Ile Gly Gln Phe Gly Ala Ala Val Phe Thr	355	360	365	
atc atc atg acc ctg cgc cag gcc ttt gcc atc ctt ctt tcc tgc ctt				1269
Ile Ile Met Thr Leu Arg Gln Ala Phe Ala Ile Leu Leu Ser Cys Leu	370	375	380	
ctc tat ggc cac act gtc act gtg gtg gga ggg ctg ggg gtg gct gtg				1317
Leu Tyr Gly His Thr Val Thr Val Val Gly Gly Leu Gly Val Ala Val	385	390	395	400
gtc ttt gct gcc ctg ctg ctg aga gtc tac ggc tgg ggc agt cta aag				1365
Val Phe Ala Ala Leu Leu Leu Arg Val Tyr Ala Arg Gly Arg Leu Lys				

405	410	415	
caa cgg gga aag aag gct gtg cct gtt gag tct cct gtg cag aag gtt			1413
Gln Arg Gly Lys Lys Ala Val Pro Val Glu Ser Pro Val Gln Lys Val			
420	425	430	
tgagggt ggaaaggcc tgagggtga agtgaaatag gaccctccca caatccctt			1470
ctgctgtaac ctctgaggga gctgggtgaa agggcaaaat gcaggtgttt tctcagtatc			1530
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<211> 1227

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (75)...(+93)

<400> 147

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Met Gly His Arg Thr Leu Val Leu Pro Trp Val Leu	
1 5 10	
cgg acc atg tgg gtc act ggg ggg acc cgg gag gtc tgg gtc caa gtc	158
Leu Thr Leu Cys Val Thr Ala Gly Thr Pro Glu Val Trp Val Gln Val	
15 20 25	
cgg atg gag gcc acc gag ctc tgg tcc ttc acc atc cgg tgt ggg ttc	206
Arg Met Glu Ala Thr Glu Leu Ser Ser Phe Thr Ile Arg Cys Gly Phe	
30 35 40	
ctg ggg tct ggg tcc atc tcc ctg gtc act gtc agc tgg ggg ggc ccc	254
Leu Gly Ser Gly Ser Ile Ser Leu Val Thr Val Ser Trp Gly Gly Pro	
45 50 55 60	
gac ggt gct ggg ggg acc acg ctg gct gtc tgg caa tca gaa cgt ggc	302
Asp Gly Ala Gly Gly Thr Thr Leu Ala Val Leu His Pro Glu Arg Gly	
65 70 75	
atc cgg caa tgg gcc cct gct cgc cag gcc cgc tgg gaa acc cag agc	350
Ile Arg Gln Trp Ala Pro Ala Arg Gln Ala Arg Trp Glu Thr Gln Ser	
80 85 90	
agc atc tct ctg atc ctg gaa ggc tct ggg gcc agc agc acc tgc gcc	398
Ser Ile Ser Leu Ile Leu Glu Gly Ser Gly Ala Ser Ser Pro Cys Ala	
95 100 105	
aac acc acc ttg tgc tgc aag ttt ggc tcc ttc cct gag ggc tcc tgg	446
Asn Thr Thr Phe Cys Cys Lys Phe Ala Ser Phe Pro Glu Gly Ser Trp	
110 115 120	
gag gcc tgt ggg agc ctc cgg ccc agc tca gac cca ggg ctc tct gcc	494
Glu Ala Cys Gly Ser Leu Pro Pro Ser Ser Asp Pro Gly Leu Ser Ala	
125 130 135 140	
cgg cgg act cct gcc ccc att ctg cgg gca gac ctg gcc ggg atc ttg	542
Pro Pro Thr Pro Ala Pro Ile Leu Arg Ala Asp Leu Ala Gly Ile Leu	
145 150 155	
ggg gtc tca gga gtc ctc ctc ttt ggc tgt gtc tac ctc ctt cat ctg	590
Gly Val Ser Gly Val Leu Leu Phe Gly Cys Val Tyr Leu Leu His Leu	
160 165 170	
ctg cgc cga cat aag cac cgc cct gct cgt agc ctc cag cgt tct ggc	638


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Leu Arg Arg His Lys His Arg Pro Ala Pro Arg Leu Gln Pro Ser Arg
175 180 185
acc agc ccc cag gca ccc aga gca cga gca tgg gca cca agc cag gcc 686
Thr Ser Pro Gln Ala Pro Arg Ala Arg Ala Trp Ala Pro Ser Gln Ala
190 195 200
tcc cag gct gct ctt cac gtc cct tat gcc act atc aac acc agc tgc 734
Ser Gln Ala Ala Leu His Val Pro Tyr Ala Thr Ile Asn Thr Ser Cys
205 210 215 220
ccc cca gct act ttg gac aca gct cac ccc cat ggg ggg ccc tcc tgg 782
Arg Pro Ala Thr Leu Asp Thr Ala His Pro His Gly Gly Pro Ser Trp
225 230 235
tgg ggg tca ctc ccc acc cac gct gca cac cgg ccc cag gcc cct gcc 830
Trp Ala Ser Leu Pro Thr His Ala Ala His Arg Pro Gln Gly Pro Ala
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ggc tgg gcc tcc aca ccc atc cct gca cgt ggc agc ttt gtc tct gtt 878
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Gln Asn Gly Leu Tyr Ala Gln Ala Gly Glu Arg Pro Pro His Thr Gly
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Pro Gly Leu Thr Leu Phe Pro Asp Pro Arg Gly Pro Arg Ala Met Glu
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Gly Pro Leu Gly Val Arg
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Val Val Val Ile Gly Ala Gly Leu Ala Gly Leu Ala Ala Ala Lys Ala
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Leu Leu Glu Gln Gly Phe Thr Asp Val Thr Val Leu Glu Ala Ser Ser
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His Ile Gly Gly Arg Val Ser Val Lys Leu Gly His Ala Thr Phe
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Glu Leu Gly Ala Thr Trp Ile His Gly Ser His Gly Asn Pro Ile Tyr

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Arg Ser Val Gly Arg Ile Ser Leu Tyr Ser Lys Asn Gly Val Ala Cys				
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Tyr Leu Thr Asn His Gly Arg Arg Ile Pro Lys Asp Val Val Glu Glu				
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Phe Thr Arg Gln Gln Val Arg Asn Arg Ile Arg Asn Asp Pro Asp Asp				
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Pro Glu Ala Thr Lys Arg Leu Lys Leu Ala Met Ile Gln Gln Tyr Leu				
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Glu Asn Ile Thr Leu Ala Phe Lys Asn Gln Asp His Ala Lys Gly Gly			
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Lys Arg Glu Leu Trp Asn Val Ser Asn Ser Val Gln Ala Cys Gln Gln			
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